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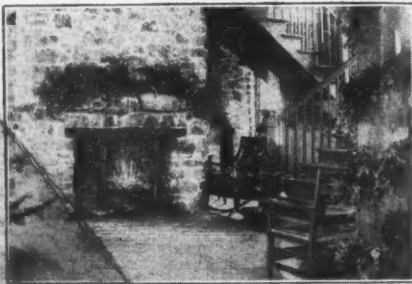
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The Journal of the Michigan State Medical Society

PUBLISHED UNDER THE DIRECTION OF THE COUNCIL

Vol. XI

BATTLE CREEK, MICHIGAN, OCTOBER, 1912

No. 10

ORIGINAL ARTICLES

A PLEA FOR A COMBINED SCIENTIFIC AND LITERARY COURSE PRELIMINARY TO THE STUDY OF MEDICINE*

CHARLES L. GIRARD, M.D.
Escanaba, Mich.

Among the several questions that are at present agitating medical circles in this country, that of education has assumed a rank of first importance, as the numerous articles appearing in our periodicals during the last few years amply testify; therefore, we think it unnecessary to apologize for presenting this subject for your consideration in this address. But in exposing our views of the matter, we will limit ourselves to the nature of the training which the youth who feels in himself a vocation for the practice of medicine (and no other should presume to attempt it), ought in reason to undergo, preliminary to the study of medicine proper.

That some preparation to the study of the latter be necessary is now generally conceded, for it is inconceivable how crude minds shall be able to grasp without unusual efforts, and a correspondingly greater demand on their time, the mass of scientific facts which constitutes modern

medical education; but in what this preparation particularly consists, which studies should be received and which omitted, is not so apparent, and many and various, even opposite and exclusive, are the views on the subject.

The mere matter-of-fact men recognize as helpful, only the studies closely allied to medicine, and which may be said to be either directly conducive to a better understanding of the principles of some of the branches of medical science or some source from which they derive their life and their power of expansion, each step in the progress of the former allowing a corresponding advance in the latter. Such men would be content to comprise in their curriculum botany, chemistry, physics and perhaps psychology; to all others they would deny admittance as irrelevant and, therefore, unnecessary.

Others of a more liberal cast of mind would be willing to add to the preceding zoology, philosophy, mathematics, geology, even, and astronomy; in short, all other

* President's Address at the Twentieth Annual Meeting of the Upper Peninsula Medical Society, Menominee, July 7-8, 1912.

matters commonly taught in a good college or university.

Others again, of still broader views, are of opinion that a classical course, that is, the study of languages both ancient and modern, along with general history, literature and rhetoric, are not to be dispensed with in the proper training of one in whom culture and refinement are imperatively required, and expected as a matter of course.

Now, it seems to us that, in defining the character of a course preparatory to medicine, one must take into consideration not only what the medical student should know to render his task easier and give him a firmer grasp of the problems that shall confront him, but also what the full-fledged graduate shall find to his advantage to possess, in the various situations of life, into which so exacting a vocation, as is the practice of his art, may eventually throw him.

For the physician of the future will be more than ever required to be equipped with a certain stock of general sciences, because he will, more than his predecessors ever were before, be brought in contact with men of most diversified knowledge; with them he may have to discuss topics of great social import, with them he will be called on to act in concert for the betterment of hygienic conditions; and it will not redound to his honor, and may even cast a doubt on his real efficiency in his own line of acquirements, if he be found deficient in such general knowledge as is expected of him; and the consciousness of his inferiority in all intellectual culture will not only prove humiliating to himself, but may stand in the way of his usefulness, and prove a woful check on his legitimate ambition. Laboring under these impediments, how will he be able to pursue with advantage certain lines in medical researches, if later on he feels inclined

to such undertaking; and above all, if success should crown his efforts, how present the result of his labors in that elegant and forceful style which commands attention and carries conviction, without being well founded in literary accomplishments? For, as Channing puts it, "a man of more than ordinary intellectual vigor may, for want of expression, be a cipher without influence in society."

There is no difficulty to understand how the sciences of the first class above mentioned, which have been aptly enough termed "collateral sciences," may promote a rapid advancement and final mastering of those others which are purely medical. Through their correlation with each other, the thorough comprehension of one is brought with cumulative effect to bear on all the others, and the sum total of their combined influences is powerful indeed on the final object to be attained. Therefore, we may take their acceptance as granted.

But what connection is there between the subjects which we have classed in the second category and the study of medicine? None; or at least, very little; but with the physician himself, both during his time of probation as a student and afterwards, as an active practitioner, a very intimate one, and fraught with important consequences. Therefore, we do not propose their adoption as a direct help to the student in his labors, but rather in so far as they are a means of developing all the faculties of the mind, each in its own way, and putting them in a state of greater receptivity.

Through the mathematics, the student will acquire the habit of concentration, without which none will ever succeed in any intellectual pursuit of a serious and practical nature, while, together with philosophy, it divides the power of disciplining the reasoning faculties through which, from known premises, one infallibly

arrives by a series of deductions to a logical conclusion; in a word, they exercise and sharpen the judgment.

The review of the animal kingdom, from the beasts of the fields and forests and the birds of the air, down to those marvelous forms of life teeming in the depths of the ocean, broadens the mental horizon. The wonders of geology will tempt the student into the most captivating speculations as to the constitution and history of the globe which he inhabits; he will follow its development until, step by step, and by a process occupying untold ages, it has finally become a fit habitation for creatures endowed with intellect. In astronomy, the student will be explained the laws that govern the motions of the celestial bodies; he will watch them rushing with tremendous velocity, along their appointed paths; his imagination will be allowed to wander through realms of space infinite and, assist, so to speak, in the birth of new worlds.

We have come now to those studies to which we have assigned the third place in our classification. Last to be treated, not because they are estimated least, but because they require a longer discussion for the very reason that, as they seem to bear no relation to medicine, they have been a butt to more numerous objections, and have had a greater number of detractors.

Great and manifold are the advantages offered by the study of languages, both ancient and modern. Besides the practical use to be directly derived from the acquirement of the latter, the daily translations of both ancient and modern languages, will in time confer on the student a perfect command of his own; that is, the mental effort necessitated to construct a sentence as clear, elegant and forcible as your mother tongue will permit, and which at the same time keeps closest to

the exact meaning of the original will bestow on you that ease and felicity of expression which is so necessary to possess to obtain a welcome hearing in social or scientific circles, which the precepts of rhetoric alone cannot effect in the same degree. Add to this the keenness of discernment required often to seize on the exact thought of the author, and the insight gained into the literature of the languages under consideration.

General history displays, as in a panorama, the various stages of civilization; first primeval man fighting for mere existence, his social instinct leading him into the slow and gradual formation of society, from the family to the tribe, and then into the nation; the causes of the rising and fall of empires; man's ceaseless groping toward moral light and his struggles with the forces of nature, until he has succeeded already in harnessing many of them, and promises, if given time, to master them all.

What a theme for a youth's meditations! What lessons may be derived from it! The communing with the great men of yore, whose personality looms up gigantic through the perspective of long ages, with the shining lights of more modern times, with all those who, in diverse ways, have benefited humanity by directing it in the path of progress, cannot fail to instill enthusiasm in his heart, and a wholesome desire to walk in their steps.

The study of the best productions of the best writers, orators and poets who have shed luster on their age and country; the committing to memory even of those selected passages which represent their best thoughts and show the heights to which the human soul can climb, will refine and enlarge the affections, embellish the mind and leave in it impressions that no vicissitude of life can alter or efface,

nor age can wither. How happy the man who can at all times find a genial companionship in his own thoughts! How strongly armed is his heart against

"The slings and arrows of outrageous fortune—and the spurns that patient merit of the unworthy takes."

Taken collectively, these studies have been called "*litteræ humaniores*"—humanizing studies, as if to say that they infused in the mind and heart those ideals and aspirations, and form that character that distinguishes the man who leads the higher life and has attained to the ultimate type of his species—the true and good man. In his defense of poetry, Shelly expresses himself in these terms:

"A man, to be truly good, must imagine intensely and comprehensively; he must put himself in the place of another and of many others; the pains and pleasures of his species must become his own. The great instrument of moral good is the imagination, and poetry administers to the effect by acting upon the cause." "

This all too brief sketch of the subjects taught in a collegiate course has been to us a labor of love, and willingly would we have amplified our theme had we not been deterred by the dread of testing your patience beyond limits. But the subject of this address shall be attained if we have succeeded in persuading you that the study of the "*belles-lettres*" cannot be separated from that of the sciences if a result worthy of the end is to be achieved. For, as Huxley says:

"I am the last person to question the importance of a genuine literary education, or to suppose that intellectual culture can be complete without it. An exclusive scientific training will bring about a mental twist as surely as an exclusive literary training."

In other words, they are complementary to each other, and the effect of their

combined influences shall be a well-balanced mind.

Objections will arise, however: "Have we not very efficient men who never went to college, who are enjoying a well-merited reputation, and have even become leaders and shining lights in the profession?" Aye truly; and for each of these, half a hundred others devoid of principles to keep in leash their ambition, of ideals to guide it toward a worthy object. It is mostly from the ranks of such men that have issued those who have commercialized medicine and have strained nearly to the breaking point the credit for lofty aims and altruism which our profession had dearly earned by a long period of disinterested and unremitted services; a deplorable state of affairs which is now causing so much concern among the best representatives of our craft.

"But seven or eight years will be required to wade through this long list of studies; how old do you think your man will be when he enters into practice?" We unhesitatingly reply that no one is fit to undertake the tremendous responsibility of dealing with problems involving life and death much before the age of thirty, when the levity of youth is supposed to have departed and judgment has attained to its full strength and maturity. And, if you admit of some truth in the oft-repeated assertion that it takes three generations to make a gentleman, shall you begrudge a few extra years of training to the physician who must be both a gentleman and a scientist? Moreover, we must not lose sight of the fact that it is not only the studies themselves which go to constitute a perfected education, it is also, and in an eminent degree, the daily companionship of congenial spirits, both learned tutors and enthusiastic pupils, it is the atmosphere of intellectuality which is breathed

in those institutions; and time is required to allow these to exert their full influence and power.

Times have changed, the world has progressed, the laity is better informed, and consequently more exacting. If we are to retain the confidence of the masses we must show our superiority in greater cul-

ture and scientific attainments, and to finish by a figure of speech, if we want the medical tree to present an inviting appearance and to bear wholesome and luscious fruits, we must begin at the roots by enriching the soil that feeds them and watering it abundantly, regardless of time, trouble or cost.

PURE FOOD AND DRUGS ACT

The Sherley bill passed congress and was approved by the President, Aug. 23, 1912. This bill amends the pure food law in its relation to the therapeutic and curative value of the statement on the label. Some criticism has been made to the effect that lawyers will be found arguing that while a statement might be false, it was not fraudulent, and therefore is not covered by this amendment.

The text of the Act follows:

An Act to amend section eight of the Food and Drugs Act approved June thirtieth, nineteen hundred and six.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That that part of section eight of the Food and Drugs Act of June thirtieth, nineteen hundred and six, defining what shall be misbranding in the case of drugs, be, and the same is hereby, amended by adding thereto a third paragraph to read as follows:

"If its package or label shall bear or contain any statement, design, or device regarding the curative or therapeutic effect of such article or any of the ingredients or substances contained therein, which is false and fraudulent."

So that the said part of said section eight shall read as follows:

"SEC. 8. That the term 'misbranded,' as used herein, shall apply to all drugs or articles of food or articles which enter into the composition of food, the package or label of which shall bear any statement, design, or device regarding such article, or the ingredients or substances contained therein which shall be false or misleading in any particular, and to any food or drug product which is falsely branded as to the State, Territory, or country in which it is manufactured or produced.

"That for the purposes of this Act an article shall also be deemed to be misbranded. In case of drugs:

"First. If it be an imitation of or offered for sale under the name of another article.

"Second. If the contents of the package as originally put up shall have been removed, in whole or in part, and other contents shall have been placed in such package, or if the package fail to bear a statement on the label of the quantity or proportion of any alcohol, morphin, opium, cocain, heroin, alpha or beta eucaine, chloroform, cannabis indica, chloral hydrate, or acetanilide, or any derivative or preparation of any such substances contained therein.

"Third. If its package or label shall bear or contain any statement, design, or device regarding the curative or therapeutic effect of such article or any of the ingredients or substances contained therein, which is false and fraudulent."

THE INSURANCE COMPANY'S VIEW

A few years ago a certain life insurance company wanted a medical examiner in a certain locality. My advice and judgment was solicited. I recommended a physician whom I thought possessed every qualification, but, to my chagrin, he was rejected. The company said that while it was not imperative that their examiners should belong to a medical society—all else being equal—they would give a preference in favor of a member over one who was not. The doctor whom I recommended did not belong to a medical society—he does now.—William Scott, M.D., in *Lancet-Clinic*, Sept. 14, 1912.

PRIMARY HYPERPLASTIC TUBERCULOSIS OF THE APPENDIX*

ALEXANDER W. BLAIN, M.D.
Detroit

Tuberculosis of the appendix is not rare in association with the disease in other parts of the intestinal tract. As a primary disease in this organ it is extremely rare. According to Draver, it must be accounted among the greatest of rarities. The so-called hyperplastic tuberculosis is essentially a chronic disease. Of late considerable attention has been given to this form although the literature in the standard text-books is extremely meager. Even the extensive systems, as Osler's, give but scant notice to the disease.

The hyperplastic form of tuberculosis has been described in connection with the lymphatic glands, the serous membranes and the intestinal tract (Adami¹). In some cases the disease has a resemblance to Hodgkin's² disease. In the intestine the disease is characterized by an enormous hypertrophy of the intestinal wall with a resulting narrowing of the lumen. The normal contour of the part is usually well preserved, cicatricial contraction, however, may produce slight irregularities in form, and masses of fat in the outer layers may cause irregular elevations on the surface. Histologically, the most conspicuous feature is the general fibrous proliferation affecting all the tissues, but most pronounced in the submucosa. Lymphoid cells are abundant, occurring in clumps and singly. Epithelioid cells and caseation

may be entirely lacking, but microscopic tubercles are usually found in places (Kelly³). The disease has been produced experimentally in rabbits by Duval.⁴ The process is explained by Cowder as a conservative effort on the part of the tissues to resist the growth and invasion of the tubercle bacilli.

Hyperplastic tuberculosis of the cecum is well known, the appendix is sometimes involved in the mass, but it usually escapes.⁵ As a primary disease of the appendix, but one case has been recorded. The case which I wish to record here occurred in my private surgical series.

Edward S., aged 13, American, was brought to my office March 25, 1911. He was having severe pain in the abdomen. Patient vomited shortly after entering office. The family history was negative. The patient had always been the strongest and most active of three children until six weeks or two months previous. At this time the parents noticed that the patient was more drowsy and languid than usual. Occasionally the patient would have "stomach-ache."

On the morning of the 25th he seemed more drowsy than usual and did not care to get out of bed at his usual hour. The pain in the abdomen became more pronounced than usual especially on the right side. Upon examination the abdomen was quite rigid. The muscles of the right side were decidedly board-like. Temperature 101.2 F., pulse 112, marked leukocytosis. A diagnosis of appendicitis with abscess was made and the patient sent to the hospital for immediate operation.

* Read at the Forty-Seventh Annual Meeting of the Michigan State Medical Society, Muskegon, July 10-11, 1912.

1. Principles of Pathology, ii.

2. Fagge: Path. Trans., London, 1874, xxv, 235

3. Abdominal Surgery.

4. Jour. Exp. Med., 1909, xi, 403.

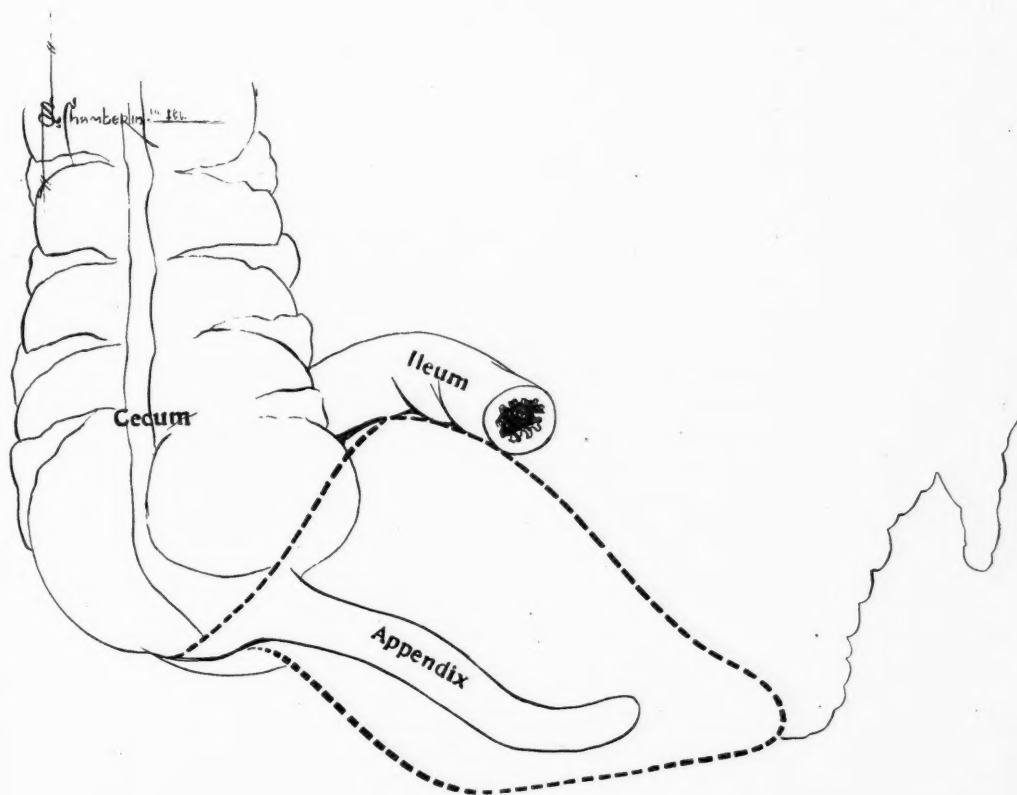
5. Kelly and Heiridon: The Veriform Appendix and Its Diseases, pp. 338, 763.

Operation Harper Hospital the evening of the same day. Anesthetic, ether.

Under anesthesia the rigidity of the muscles was still marked but a movable mass could be made out. Contrary to the usual custom in cases with abscess a right rectus incision was made and the large mass delivered from the wound. The cecum was quite movable. There was considerable free fluid in the peritoneal cavity. The topography was rather difficult to

The specimen was sent to the hospital laboratory where Dr. Joseph Sill, Resident Pathologist, made a diagnosis of hyperplastic tuberculosis of the appendix.

The specimen was later submitted to Dr. E. J. Snyder, Director of the Pathological Laboratory, Detroit College of Medicine, who rendered the following report:



make out. The omentum was adherent and firmly grown to the mass. The tumor was smooth and glistening and was with considerable difficulty separated from the surrounding ileum and cecum. A large piece of omentum was removed *en masse* with the appendix. The stump was not closed by the customary purse-string but closed in by a continuous suture covering all of the denuded surface. A small drain was placed in the wound and was removed on the third day. The patient made a good recovery and left the hospital on the twelfth day.

APPENDIX. Specimen had been hardened in formaldehyd. Color light brown. Length 8 cm. diameter $3\frac{1}{2}$ to 5 cm., very firm and hard. Peritoneal surface smooth with exception of nodules. The appendiceal mesentery is greatly thickened and fibrous on section; the greatest thickening is in the subserous layer. The mucous walls which are plainly made out show some thickening. Near the distal end a well defined abscess cavity is found containing a single cauliflower concretion. The walls of the cavity are irregular and outline about 1.5 cm. diameter.

MICROSCOPIC EXAMINATION: Mucous membrane intact, well preserved, takes stains well except where destroyed by abscess cavity. The granular epithelium shows a catarrhal condition with mucous degeneration. There is an increase in the lymphoid structures, germ centers being very prominent. The lymphoid infiltration extends through the muscularis mucosa to the circular muscular fibers. The abscess cavity shows fibrous boundary with round cell infiltration. The sub-mucous layer is thickened by the formation of a large amount of edematous cellular fibrous tissue infiltrated with lymph cells, polynuclear and eosinophilic. Blood-vessels are congested.

The circular muscular layer is thickened by the infiltration between the fibers of new formed cellular fibrous tissue. Muscle fibers are hypertrophied. The longitudinal fibers are widely separated by newly formed fibrous tissue. Both layers show large numbers of small round cells and eosinophils. The outer boundary of the longitudinal layer is very poorly defined due to the replacing and infiltration between the muscle fibers of the cellular fibrous tissue.

The chief alteration is found in the greatly thickened sub-serosa which shows the hyperplastic tubercular condition, and is from 1 cm. to 1.5 cm. in thickness. This layer is composed of the cellular fibrous tissue containing newly formed blood-vessels. Here are found a large

number of tubercular foci. These latter consist of dense round cell infiltration in which are a number of epithelioid and giant cells. Some areas show giant cells in locations in which there are very few round cells. Several areas in which there are numerous giant cells show beginning necrosis. No tubercle bacilli were found in section after repeated examination. Section was also stained for spirochetes by Levaditi method with negative results. The peritoneal tract is thick with fibrous and small round cell infiltration but no giant cells. This case is distinctive in that it is the only case reported in which the involvement is in the sub-serosa.

It is now one year and four months since the patient was operated on. The patient has been operated on since for adenoids, but has otherwise been perfectly well. Physical examination of the chest both before operation and since have failed to show any evidence of pulmonary tuberculosis.

The accompanying painting by Norman S. Chamberlin illustrates better than description the gross pathology of the specimen.

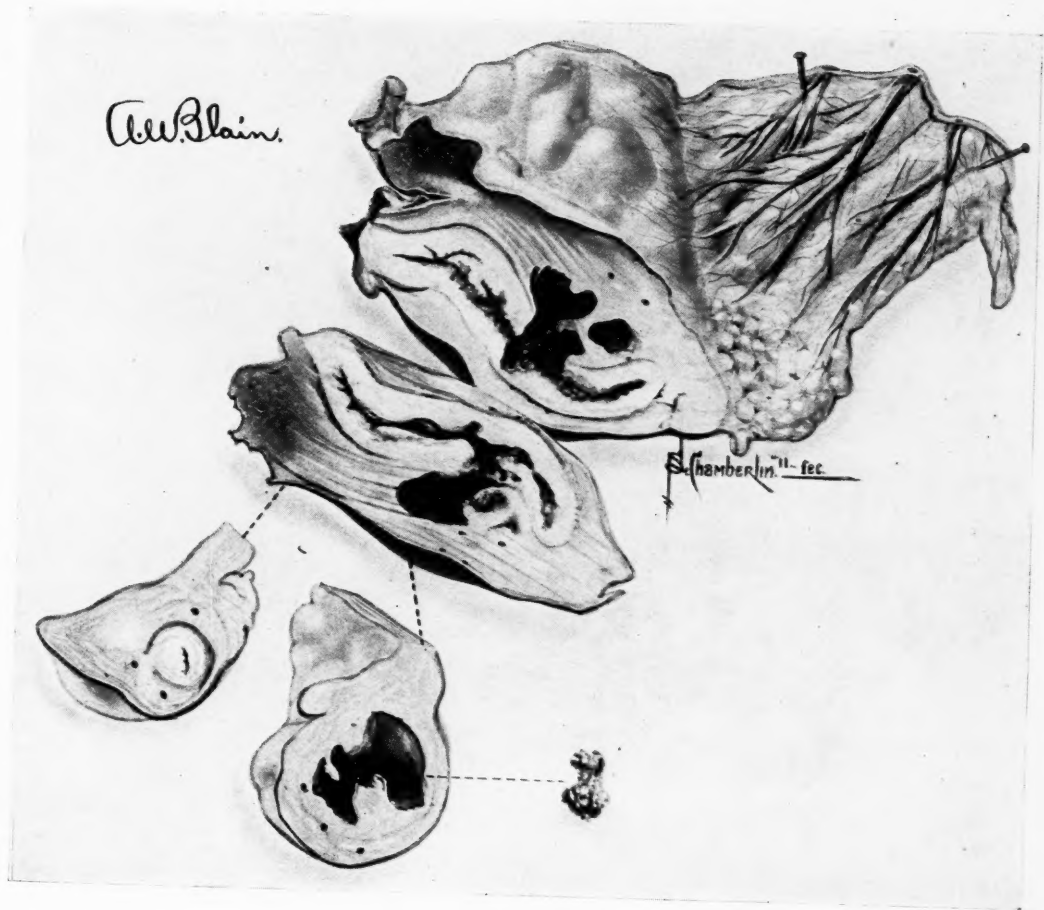
1105 Jefferson Avenue, East.

THE PREVALENCE OF RABIES IN DETROIT

Since March 18, rabies among dogs has been more or less prevalent in this city. During the past six months, the Board of Health has sent nineteen people to the Pasteur Institute at Ann Arbor because they have been bitten by mad dogs. In each case the dog was proven to have been mad when he bit his victim. During the same six months about 350 dog bites were reported to the Board of Health but it was not possible to prove that any of these were inflicted by rabid animals. About a month ago a case of hydrophobia in the human was found in Pontiac, and the victim, a man who had been bitten by a mad dog, died in terrible agony about four days after the first symptoms developed. About two weeks ago, a child succumbed to the same horrible death in Grosse Pointe, and on Friday, August 16, a little boy 8 years of age died in the city of Detroit as the result of hydrophobia.—*Bulletin Detroit Board of Health.*

ANTERIOR POLIOMYELITIS (Infantile Paralysis)

This disease has been more or less prevalent during the past several years in various parts of the United States, and in some sections it has occurred in marked epidemics. At the present time, the disease is reported as being unusually prevalent in Buffalo. In view of these facts, we desire to call the attention of the profession to the possible existence of cases of anterior poliomyelitis in Detroit, and to request that the same be reported to the Board of Health. As has been repeatedly said with reference to other communicable diseases, it is difficult to take any steps looking towards the restriction of a disease unless we know where the cases of such diseases are located. . . . Anterior poliomyelitis has been declared an infectious disease by the State Board of Health. All physicians and hospitals are, therefore, again urged to report their cases of this disease to this department.—*Bulletin Detroit Board of Health.*



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CHRONIC SUPPURATION OF THE ANTRUM OF HIGHMORE; ITS CURE BY RESECTION OF THE NASAL WALL*.

OTTO T. FREER, M.D.
Chicago

BRIEF REVIEW OF ANATOMY AND PATHOLOGY

The cavity of the maxillary antrum has somewhat the form of an inverted three-sided pyramid whose base corresponds to the roof of the antrum. The roof of the antrum is the floor of the orbit, is thin and fragile, and contains the channel for the infraorbital nerve. The three sides of the maxillary sinus converge to form its bottom, a broad, rounded groove, extending sagittally above the molar and last bicuspid teeth, whose sockets may even project above the surface of the floor of the antrum, if the alveolar process be hollowed out to an unusual depth. The three walls of the antrum are called the facial, anterior or buccal wall; the temporal or posterior wall and the nasal or inner wall.

The buccal wall is the thickest and strongest, and divided from the temporal one by a buttress of bone which extends from the first molar tooth to the malar process. The anterior dental nerve, branching from the infraorbital nerve, descends in the buccal wall and its filaments are distributed to the incisor, canine and first bicuspid teeth, the nerve anastomosing with the posterior dental nerve opposite the canine fossa. The buccal wall contains the roots of the teeth as far back as the second molar. They ascend high in this wall and it is possible to injure them in operations through it.

The posterior, temporal or zygomatic wall forms the anterior boundary of the zygomatic (pterygo-palatine) fossa. Immediately behind it lies the internal maxillary artery with its posterior nasal and descending palatine branches.

The inner or nasal wall (Fig. 1) is divided by the attachment along its whole length of the inferior turbinated body, into a stronger, bony lower portion, corresponding to the inferior meatus and a thin, partly membranous, upper portion reaching to the attachment of the middle turbinated body and occupying the middle meatus. Underneath the middle turbinated body is found the groove behind the uncinate process of the ethmoid bone and between it and the bulla ethmoidalis, called the infundibulum. The small normal opening of the maxillary antrum is commonly found in this groove together with the opening of the anterior ethmoidal cells. The outlet of the frontal sinus, called the nasofrontal duct, empties into the infundibulum at its top. The gaping entrance to the infundibulum is called the hiatus semilunaris. In addition to the usual outlet there are often accessory openings of the maxillary sinus, situated below the hiatus semilunaris in the middle meatus.

Just in front of the nasal wall of the antrum is situated the lachrymal sac, slightly in advance to the anterior border of the middle turbinated body. The tear duct descends nearly vertically from it and

* Read at the Forty-Seventh Annual Meeting of the Michigan State Medical Society, Muskegon, July 10-11, 1912.

opens under the lower turbinated body at the highest point of its attachment near the junction of the anterior and middle fourth.

The interior of the antrum, in rare cases, is found divided horizontally or vertically into compartments by more or less complete bony septa. Some antra are

seldom materially thickened or altered. In a few chronic cases, however, hypertrophic changes take place, the normally delicate mucous membrane sometimes undergoing great fibrous thickening which nearly fills the lumen of the antrum, the surface of the altered mucosa remaining smooth, or becoming warty, or covered with irregular

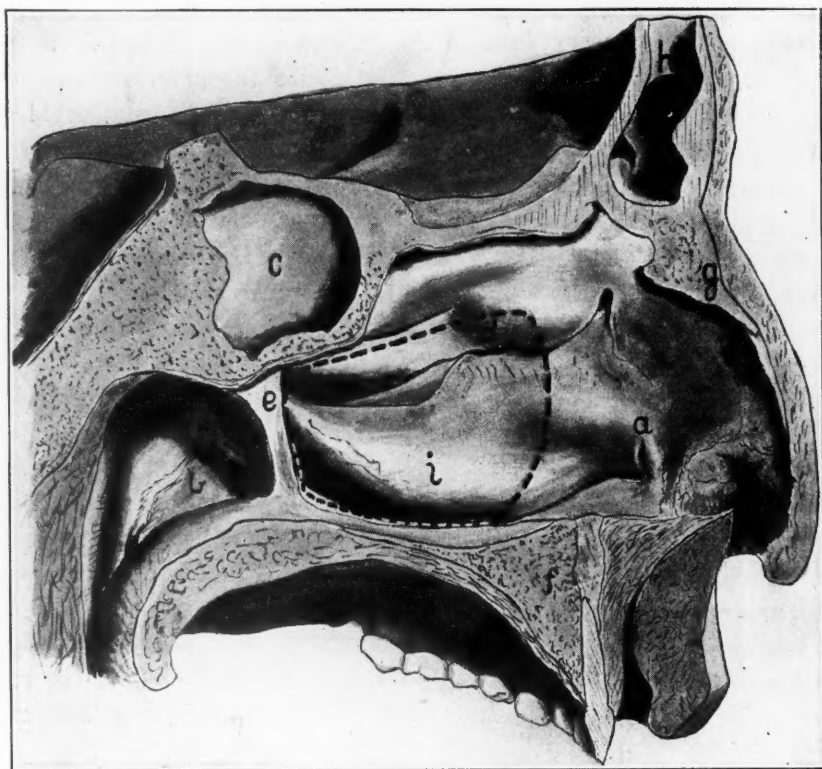


Fig. 1.—View of lateral wall of the nasal cavity, the dotted line showing the boundary of the nasal wall of the antrum which lies underneath the lower and middle turbinated bodies, *i* and *d*; *c*, sphenoidal sinus; *e*, remaining posterior part of septum, the rest being removed to show lateral nasal wall; *b*, Eustachian tube; *f*, hard palate; *g*, nasal bone; *h*, frontal sinus; *a*, incision for submucous uplifting of mucosa of convexity of lower turbinate to form flap shown in Figure 5.

small, having very thick walls and a floor above the level of the nasal floor, a point of surgical importance.

ANTRAL INFLAMMATION

The antrum is lined with a thin, closely attached, mucosa-periosteum bearing ciliated epithelium. Acute inflammation of this membrane causes but moderate swelling and even in chronic sinusitis it is

outgrowths. In other rare cases the interior of the cavity is found partly filled with masses of granulation tissue, thickened mucous folds and collections of polypi, while portions of the mucosa may undergo cystic degeneration. The fissures and sulci separating the loose irregular proliferations so formed, lead to retention, stagnation and putrefaction of secretions. Chronic periostitis with the production of

osteophytes in the interior of the antrum is also found. Caries of the bone, in the form of localized caries in the neighborhood of a diseased tooth or affecting other parts of the antral wall because of penetrating ulcers of the mucosa is rare, but may occur, and may lead to extension of the suppuration beyond the cavity of the antrum. In this manner abscesses of the orbit or of the zygomatic fossa may result with danger of brain abscess and meningitis, while in more fortunate cases the abscess forms outside of the buccal wall of the antrum under the cheek. Abscesses about the antrum may also occur without preceding caries, the septic process penetrating the bony wall by means of thrombosis of penetrating veinlets.

The discharge in inflammation of the maxillary antrum may be serous, purulent or even absent, but it is usually pus, and in chronic cases generally fetid, sometimes intensely so. The quantity of secretion varies from slight amounts that dry into crusts in the nasal passages to a free outflow.

Acute maxillary sinusitis due to infection of the antrum through the natural opening of the nose in the course of infectious rhinitis usually ends in complete spontaneous recovery. Chronic purulent maxillary sinusitis with fetid discharge, is, in my experience, nearly always due to death of the pulp of a molar or second bicuspid tooth with resulting root abscess, or due to a root extraction opening the antrum through the alveolar process. It cannot recover spontaneously because the pus stagnates in the cavity of the antrum on account of difficult drainage through the small natural opening, which is situated unfavorably near the top of the antrum, when the patient is upright, and which is readily narrowed or closed by swelling of its mucosa, by the polypoid proliferations which often form about it

and by swelling of the mucosa of the middle turbinate and uncinat process. The pus, therefore, must often be under positive pressure from continued secretion in order to force its escape. The obstruction of the normal opening so created not only interferes with drainage, but also stops the ventilation of the antrum, so that absorption of the air within it creates negative pressure and so adds to the chronic venous congestion and secretion. In order to recover from the suppuration the antrum must not only be drained, but also ventilated, and this is the reason why the customary opening through the socket of a tooth, blocked as it is by granulations and pus, does not lead to recovery.

In many cases the pus, stagnating in the antrum, deposits thick foul clots, which may nearly fill the cavity with a semi-solid mass.

DIAGNOSIS

Nasal inspection usually shows nothing beyond creamy pus in the middle meatus, the naris looking normal when this is washed away. Not infrequently there is swelling of the processus uncinatus, so that it protrudes beside the body of the middle turbinate, making it appear as if doubled. In other cases polypi sprout from under the middle turbinate and, when removed with the punch, may lead directly into the antrum in the middle meatus, a gush of pus indicating entrance into the cavity.

In some cases, even when the pus in the antrum is not apparently under pressure, there is a characteristic bulging of the nasal wall in the middle meatus due probably to swelling. In one case, seen by me, that of a girl of 12, purulent coagula so filled the antrum with a solid mass that pressure absorption of the bone of the nasal wall over its entire extent had resulted, the distended flaccid outer nasal

wall protruding against the septum, so that I thought it a smooth tumor, until an incision gave vent to the cheesy contents.

The pus in chronic antrum suppuration is nearly always foul, while pus coming from the frontal sinus or ethmoidal cells is seldom so. Therefore, even a drop or two of offensive pus in the middle meatus and especially the patient's complaint of a malodorous discharge from the nose, although the nose looks clean on inspection, should create suspicion of empyema of the antrum, for the pus does not always stay in the middle meatus, in many cases flowing back immediately into the nasopharynx so that none is seen in the nose.

Suction by increasing an existing outflow or by making a drop or two of pus appear in the middle meatus, may suggest the existence of suppuration in the antrum.

Suppuration of an antrum is probable where, with an *x*-ray picture showing the antra of equal size, transillumination shows one cheek distinctly darker than the other, absence of the usual lunette of light under the orbital margin and the pupil on the affected side dark, while that on the healthy side shines with a greenish light. Where the amount of pus in the antrum is slight the contrast between the two cheeks may be effaced by a bright light and only become evident when the light is dimmed. On the other hand even a normal antrum may remain dark in thick-skulled men, unless a very intense light be employed. The transillumination lamp, therefore, must be one which can be dimmed or brightened by means of a rheostat.

X-ray pictures, while so valuable in detecting frontal sinus suppuration, often mislead in suppuration of the antrum, because of the varying thickness of the buccal wall and because of overshadowing by the malar bone, so that an antrum may be normal while giving a blurred shadow

on the plate. The *x*-ray plate is, however, indispensable, for it shows the level of the antral floor and the possible presence of septa, conditions which must be determined before operating.

The diagnosis of suppuration of the antrum is confirmed by washing pus from the antrum through an artificial or the natural opening. In the rare cases where the natural opening is not covered by the middle turbinated body it may be readily entered with a suitable right angled tube, but I have usually found it too far under the turbinate to be reached without force. Unless easily done, washing through the natural opening is not worth while, for the small stream available may return clear and nevertheless thick pus may lie in the bottom of the antrum, the water merely flowing in and out over the clotted pus. This is also true of the easily made puncture through the middle meatus, and for this reason I nearly always employ an opening made near the bottom of the antrum through the nasal wall under the inferior turbinate by means of a trephine driven by a dental engine (Fig. 2). The round, large, smooth opening thus painlessly made, admits a large Eustachian catheter which fits so loosely in the hole that there is an ample return flow for flushing out the pus, which may be unable to escape through the natural opening if it be small, or blocked by swelling or pus clots.

Instead of the trephine, the trocar is the commonly used implement for diagnosis. I have abandoned it because it often failed to puncture a massive nasal wall, because the small cannula tightly filled the puncture and so left only the natural opening available for the return flow, and because the trocar in breaking through the bone often caused great pain, due to the stellate fracture made. Even the large return stream from the trephine opening

is occasionally blocked by clots of pus, a condition made evident by the impossibility of forcing water into the antrum until the clot escapes.

Where transillumination and the *x*-ray are both negative a persistent foul discharge in the middle meatus nevertheless justifies exploratory trephining when both the frontal sinus and ethmoidal cells seem healthy, for where a suppurating antrum drains fairly well through a large natural opening there may not be enough retention of pus in its cavity to cause darkening.

While the pain in empyema of the antrum in many cases is seated in the teeth and cheek and so directs attention to the antrum quite as often the pain is situated in the supraorbital region and so misleads the inexperienced into a diagnosis of frontal sinus suppuration. A search for the signs described will avoid this error, which is committed with incomprehensible frequency.

TREATMENT

Boring through the alveolar process in the socket of a molar tooth. This objectionable operation is still much used. It is very painful and the drainage obtained is so poor, because of the granulations which soon fill the small canal made, that the patients often have to use it to wash the affected antrum for the rest of their lives. Where a tube is worn in the canal it permits the ingress of food into the antrum, creates constant irritation and pain and its small caliber will not give egress to the thick pus which stops it enough to prevent ventilation.

The Caldwell-Luc operation through the buccal wall.—This is the popular operation to-day. The antrum is broadly opened through the buccal wall and from the entrance so obtained a permanent opening is made in the nasal wall, preceded by

resection of a part of the lower turbinated body. This operation has become the favorite one for two reasons. It requires no especial skill, as the buccal wall lies right before the surgeon and the mistaken notion that the mucosa is nearly always pathologically altered beyond repair, and must be scraped away, makes it seem necessary to have direct access to the antrum. As stated, it is only in the rarest cases that the mucosa is not fully capable of a return to its normal condition as soon as ventilation and drainage are established. Instead therefore of being a necessity, the first part of the Caldwell-Luc operation, the breaking through the buccal wall, is a needless mutilation endangering the roots of the teeth and the anterior dental nerve and without reason making the operation a major one requiring general narcosis. In the end the Caldwell-Luc procedure accomplishes no more than the operation through the nasal wall, which may be done under local anesthesia and constitutes the least severe half of the Caldwell-Luc operation.

The operations of Denker and Canfield with resection of enough of the inner surface of the upper jaw, beginning in front at the apertura piriformis, to include the nasal wall of the antrum.—These procedures are also out of proportion in their severity to the requirements of the condition to be remedied.

Canfield removes the nasal wall of the antrum as high as the level of the insertion of the inferior turbinate, beginning at its very front at the apertura piriformis, after a preliminary amputation of the anterior half of the inferior turbinate has been done. He also removes the desired amount of the anterior antral (buccal) wall and cures the antrum "as much as is necessary." He forms a flap of the mucosa of the submucously resected nasal wall and applies it to the floor of the antrum.

The operation through the middle meatus.—This procedure involves the danger of penetration of the orbit where the orbital floor is low and it establishes drainage at the top of the antrum, so that retention of pus is unavoidable.

The intranasal resection of the nasal wall of the antrum as performed by the author.—The first operators to broadly open and drain the antrum through the nasal wall in the inferior meatus were Claoue,¹ Holbrook Curtis² and Rethi.³

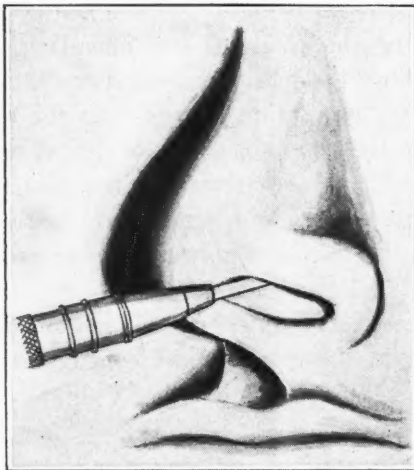


Fig. 2.—The trephine introduced into the nose and applied to nasal wall of antrum underneath the lower turbinate ready to make exploratory opening.

FREER OPERATION

My method of operating is as follows: As a preliminary to the operation or even exploratory trephining in the inferior meatus, an x-ray picture should be taken to show whether the floor of the antrum be as low as, or lower than, that of the naris, lest the trephine drill below it into the solid bone.

For the local anesthesia cocain mud, made by dipping a swab moistened with adrenalin into cocain flake crystals, is rubbed into the lower turbinate and under it into the mucosa of the lower meatus.

Unless there be no doubt that empyema of the antrum exists, the exploratory trephine opening is then made under the lower turbinate by means of a straight trephine (Fig. 3) in the handpiece of a dental engine. The engine I employ has one-eighth horse-power and makes at full speed 4,000 revolutions in a minute. There is no difficulty in introducing the trephine under the lower turbinate for, because of its elasticity, the cartilaginous septum can be sprung over towards the other nostril with the smooth shank of the trephine (Fig. 2). The cutting edge of the trephine is pressed against the wall of the lower meatus about $\frac{3}{4}$ of an inch behind the anterior attachment of the lower turbin-



Fig. 3.—Freer's antrum bur and trephine.

ate, the barrel of the trephine lying across the naris at an angle of about 45 degrees (Fig. 4). In this position the trephine goes into the antrum instantly, but with a distinct sense of its entrance. In some cases, such as no trocar can penetrate, the trephine cuts through more slowly, and a nervous operator will feel relieved when it finally pierces the bone. I have cut through bone of ivory hardness, $\frac{3}{16}$ of an inch thick, the trephine growing hot and smoke coming from the nose from the friction. The procedure is absolutely painless.

The antrum is now flushed with the Eustachian catheter and, if pus be present, the real operation is begun by resection of the anterior half of the inferior turbinated body. This is done according to the method I have described.⁴ A vertical

1. *Revue Hebdomadaire de Lar. D'Otol. et de Rhinol.*, 1903.

2. *The Laryngoscope*, 1903.

3. *Wiener Klinische Wochenschrift*, 1904.

4. *Annals of Otology*, Dec. 1911.

incision is made at the front of the turbinate (Fig. 1), large enough to permit the entrance of a sharp elevator under the mucosa, which is detached from the convex surface of the bone as far back as the intended resection. The so-prepared flap is then detached by means of an incision along the free border of the turbinate and is reflected upward, out of the way. The turbinate is then cut longitudinally with the chisel (Fig. 5), from its attachment to the nasal wall, as far back as the flap

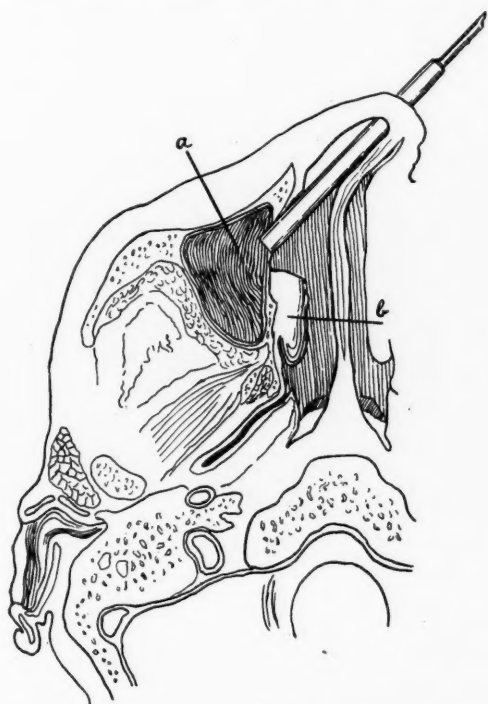


Fig. 4.—Horizontal section through head, showing the trephine penetrating the nasal wall of the antrum and lying across the nasal fossa at an angle of 45 degrees to the long diameter of the nasal cavity. a, antrum; b, posterior part of resected inferior turbinate.

is liberated, and is then cut away with punch forceps as far back as the chisel cut goes. The flap is then replaced and smoothly covers the stump, later adhering to it by first intention, thus avoiding granulating and scabbing (Figs. 6 and 7).

The nasal wall now lies in view and after several cores have been cut from it with the trephine, in the manner described,

the long, barrel-shaped bur (Fig. 3) is made to ream out the opening started by the trephining until the nasal wall of the antrum is leveled to the nasal floor and cut away above to the attachment of the lower turbinated body and forward and backward as far as desired. It is not necessary, but possible, to remove the entire nasal wall with the bur; forward cutting being especially easy, while with forceps, even back cutting, this part of the work is difficult and uncertain. The length of the barrel of the bur keeps it always riding on the edge of the bone. It is so much easier to cut the opening with the bur than with any forceps I have used, that I merely use it to trim the edges of the opening in cases where its blades can be applied with sufficient accuracy, in this to forceps rather inaccessible operative field. I have not found a chisel a useful instrument for the operation.

The opening must be made twice as large as it is intended it shall be after healing, for, although the bone is not replaced, the edges of the opening in the mucosa tend to contract concentrically in cicatrizing, forming a membranous diaphragm which partly closes the hole. Where because of a deflection of the septum, it is difficult to make an adequate opening, the deflection must be resected as a preliminary operation.

In some cases, where the suppuration was slight, I have contented myself with merely reaming out the exploratory trephine opening under the turbinate with the bur, and, while I have obtained recoveries in this way, I prefer the more radical operation described, for where the turbinate has been left intact I have had relapses and had to do the complete operation in the end.

All but one of my thirty-six patients recovered, no washing being necessary after a few days or weeks. The one case referred

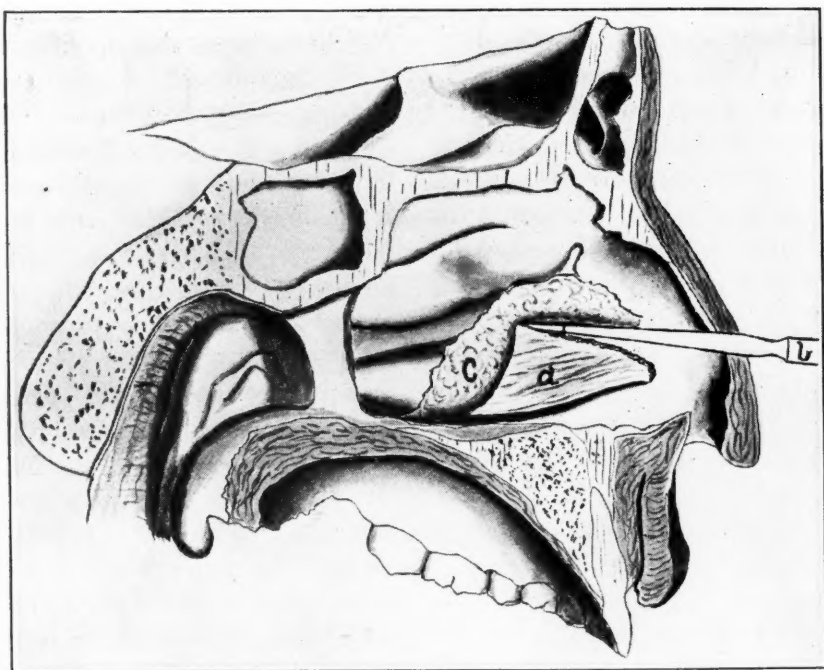


Fig. 5.—Lateral view of the nasal cavity as in Figure 1, showing the flap c, uplifted from the portion of the lower turbinated bone, being resected, and the chisel; b, detaching this part of the bone; a, from its attachment above.

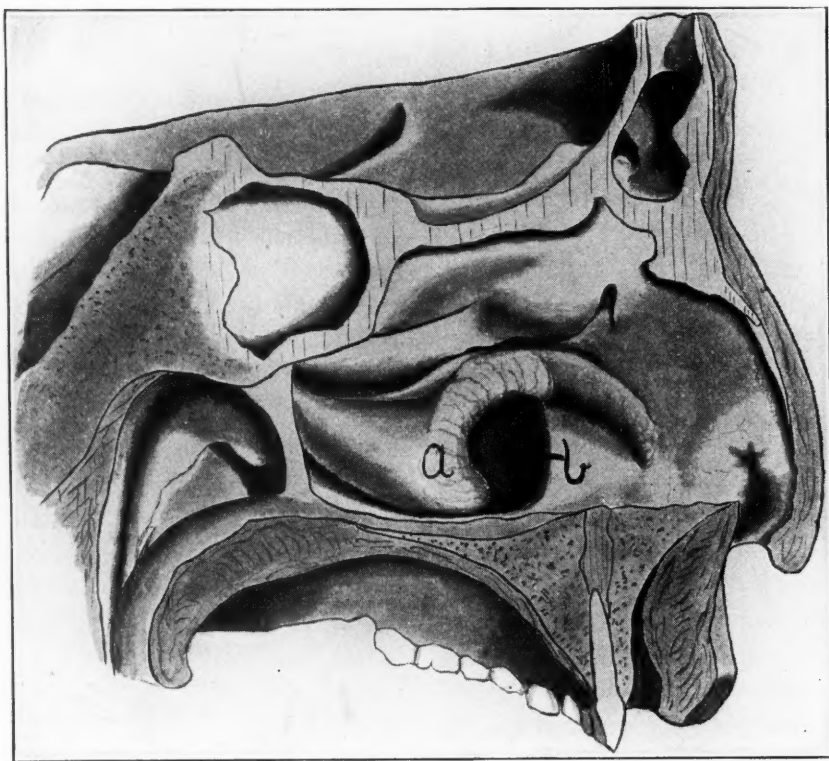


Fig. 6.—Lateral view of outer wall of nose as shown in Figure 1, showing the inferior turbinate a, resected and covered by the flap; b, opening into antrum made by trephine and bur.

to is one of ozena and the mucous lining of the antrum, although of normal appearance, still secretes some pus, though less and less.

I have never had to curet the antrum and can see no reason, unless there be extreme degeneration of the mucosa, for removing the irreplaceable ciliated mucous lining, thus needlessly subjecting the patient to healing by granulation, tedious even when helped by a flap. Ventilation

For after-treatment, I pack the naris of the operation, but not the antrum, with the layer tampon described in my septum articles. After the removal of this packing I wash the antrum a few times, when the suppuration usually has ceased. If it continue for a time, I teach the patient to wash out his own antrum with boric acid solution until he is well. It is seldom that he needs to wash more than a month or two.

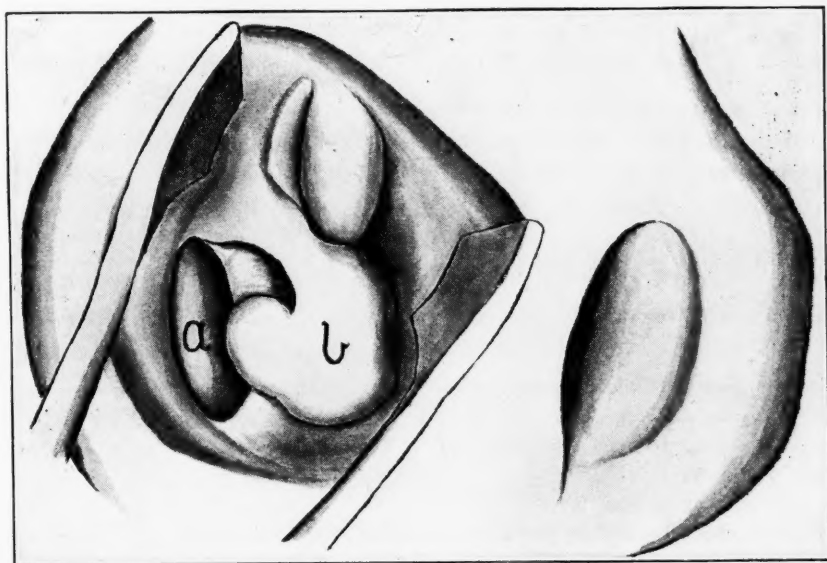


Fig. 7.—Drawn from life two months after operation. View into right naris held open with speculum, showing the resected inferior turbinate and the opening into the antrum under it; a, opening into antrum; b, inferior turbinate.

and drainage alone seem capable of restoring the mucous membrane to its normal state in nearly all cases.

Exceptionally caries or a tumor may make the Caldwell-Luc operation a necessity, but as the intranasal operation is but its last step, there is no reason why the Caldwell-Luc operation should not be used as a last resort instead of the invariable procedure it is with many operators.

The fact that the floor of the antrum is lower than that of the nose does not sufficiently interfere with drainage to be of moment.

DISCUSSION

DR. OTTO FREER, closing: My chief reason for choosing the subject of the intranasal operation for chronic empyema of the antrum is the undeserved popularity of the Caldwell-Luc procedure which mutilates the complex buccal wall of the maxillary sinus, endangers the roots of the teeth and the anterior dental nerve, needlessly destroys the lining of the antrum and in the end does no more than the intranasal operation. I can see no reason for choosing this destructive route to reach the nasal wall, when it lies before the operator in the nose merely covered by the inferior turbinate, unless it be that a lack of intranasal skill impels the majority to enter the antrum directly from in front.

It has been my experience that I have seldom had to have the tooth that caused the suppuration of the antrum treated by a dentist. It seems as if the suppuration in the tooth-socket usually ends after the root abscess has drained into the antrum and after the root-canals have been filled, and that it only exceptionally persists because of caries of the alveolar process.

Dr. Canfield's operation, as applied to those cases of suppuration of the maxillary antrum

where caries or some other complication requires the broadest sort of an opening, fills a distinct place in surgery and is superior to the Caldwell-Luc method for such unusual cases, for which it should be reserved while the operation I have described is suitable for antral empyema of the ordinary type.

Dr. Canfield is wrong in thinking my procedure limited to myself, for I know a number of busy rhinologists who employ it with satisfaction.

ADVICE

By Dr. J. D. Dunlop, Alpena

If you're anxious to get to the end of the row,
Keep hoeing.

If desiring success, why keep on the go,
Keep going.

The fellow who loiters along the road,
Who constantly whines at his terrible load,
Looks sorry and draws down his mouth like a toad

Or keeps blowing
About the great things that he some day will do,

I think will be out in the cold, don't you?
When it's snowing.

If you happen to be in a foundering boat,
Keep rowing.

If your object is trying to keep her afloat,
Keep going.

Don't stop your rowing to wish for the shore
But use all your energy wielding the oar;
That fraudulent wishing has failed you before,
It's a sham.

Some people can wish, but don't like to work
Tho' the chap who keeps wishing is only a shirk,
He's a clam.

If you do not succeed the first time you try,
Don't stop,

Keep pushing along. Don't sit down and cry
One drop.

The clouds that surround you will all disappear
If you hammer away for a month or a year,
Then friends by the score will be offering cheer,

Sure pop.
And say, "You have done a magnificent job,
We're delighted to see you commencing to bob
Up top."

But if you're successful, don't grab for the earth
Nor get gay.

Don't become all puffed up with hilarious mirth
The first day.

Keep hoeing your row. Be a man among men.
Don't forget that you may become hard up
again,

Should the bottom drop out of your bubble.
What then?

Keep going.
Those who smiled when you rose, would laugh
if you dropped,
And be justified, too, if you foolishly stopped
Your hoeing.

Don't be narrow, nor little. Be earnest, but
kind.

Look around.
There are those whom the fates may have
driven behind
To be found.

And while you are happy because you have won
There are other unfortunates still on the run
Who chased by the Devil are having no fun
And why

Don't you move some obstacles out of their
way
And help the poor fellows in winning the day?
Now try.

Keep boosting and helping the town where you
live,
Why not?

And when asked to help. Why, be ready to
give

On the spot.
The man who's a knocker is wrong in the head
He's seldom a giver, but a wanter instead,
And what will be said of him after he's dead?
Great Scott!

He'll be called an old tight-skin, then forgotten,
I think,
Or his memory painted in colors of ink.
Sure shot.

THE DIRECT TRANSFUSION OF BLOOD, WITH THE REPORT OF TWO CASES *

ALEXANDER MACKENZIE CAMPBELL, M.D.
Grand Rapids, Mich.

There is probably no more dramatic procedure in operative surgery than that of the direct transfusion of blood. The patient requiring this measure is usually in an extremely serious and debilitated condition, while the person who donates the blood is supposed to be an individual who expresses as perfect a degree of good health as is possible.

The contrast when donor and recipient are each placed on an operating table in such a relation that the artery of the one can be connected to the vein of the other, makes a picture which in consideration of the sacrifice and sentiment involved would be worthy of the efforts of a great artist. The biblical aphorism "Greater love hath no man than that he lay down his life for his friend" is almost exemplified in the courage and suffering that this measure entails.

HISTORY

Just when transfusion of blood was first advocated is not known, but its practice was extensive in the first century. The varying successes at first, and the failures due to recklessness put a stop to the procedure, for in 1675 the parliament of Paris prohibited by edict the practice of transfusion. No further attention was given to the subject until 1815, when Blindel brought it forward again; and again in 1828, Dieffenbach utilized it. Von Zensen in the early nineties of the

past century proved its value as a therapeutic measure. It is stated that the ancient Egyptians alluded to the transfusion of blood in their writings. Herophilus in his treatise on anatomy made a definite reference to blood transfusion. Pope Innocent the eighth was transfused with the blood of three youths, in April, 1492, in an unsuccessful attempt to prolong his life. Labavius gave an accurate description of transfusion of blood as early as 1615.

It will be seen therefore that the conception of blood transfusion is by no means new. The methods by which it has been done in the past must necessarily have been crude, and to-day even we are not entirely agreed on a satisfactory technic.

METHODS

In reviewing the transfusion methods we note that Carroll sutures the cut artery of the donor to the cut vein of the donee, by simple circular suture, the coats of the vessels being everted so as to bring intima to intima in broad apposition. No. 16 needles and No. 000,000,000 thread, 1/16 of an inch from the cut edge, are used. In Hartwell's method the artery is telescoped into the vein, just as ureteral telescoping is done in case of complete division of these tubular structures. The end of the intussusceptum (artery) is provided with one to three U-stitch bridles near the cut edge, each strand is provided with a needle, and these needles, in sets of two, are thrust into the lumen of the intussus-

* Read at the Forty-Seventh Annual Meeting of the Michigan State Medical Society, Muskegon, July 10-11, 1912.

ciens (vein), and through all its coats about one inch from the cut end, emerging at different points of the circumference. The strands are now pulled through drawing behind them the intussusceptum (artery) the end of which has been well greased with melted sterilized vaseline. The corresponding bridle ends are knotted together and four sutures are put in to take the edge of the intussusciens end to the intussusceptum for the purpose of preventing back flow and leakage.

The Crile method consists of small conical cannula transversely grooved, held with a hemostat handle; through its lumen the vein is drawn from the handle side usually by means of a suture bridle, but preferably with one of the miniature tenacula. The vein is cuffed back and secured with a fine silk ligature over the transverse groove on the cannula. The donor's artery is then spread with three fine tenacula or mosquito forceps and drawn over the cuffed vein where it is in turn tied down.

In the Crile-cannula-dog's method a carotid is removed from the dog in its entire length, fitted with a Crile cannula at each end, properly preserved in 2 per cent. formalin solution and stretched on a wire frame to prevent kinking. This apparatus is put into use quite simply, by splitting the artery and vein, just enough to introduce a cannulaed end of the dog's carotid into each and throwing a ligature about the vessel and contained cannula. It will be readily seen that this allows a pliable joint to be made between the donor's and the donee's vessels without stretching or straining.

Brewer advocates the use of glass tubes of various calibers, some straight, others bayonet shaped, the flanges also varying in diameter. These are immersed just before using in melted paraffin, a coat of which is believed to make the interior less likely to coagulate the blood flowing through.

The ends of the paraffin tube are introduced into the cut ends of the artery and vein respectively, and tied in with ligatures. They serve as connecting links between the vessels of the donor and donee in order to relieve tension and strain between them.

An important detail in the technic, whatever method is employed, is the treatment of the adventitia. This tends to fall forward over the cut end of a vessel and obscure it, interfering with the passing of sutures or the picking up of the circumference with mosquito forceps or tenacula. It is essential to remove this impediment by pulling the adventitia out, like the prepuce over the glands in circumcision and trimming it off with sharp scissors so that its cut edge retracts above them.

Arthur H. Curtis and V. C. David of Chicago did a lot of experimental transfusion on dogs, and also transfused thirteen human patients with pellagra on which they used the Crile method in all cases save one, where vein-to-vein anastomosis was done. They were not satisfied with the methods of blood transfusion in vogue and resorted to a measure which seemed to overcome the difficulties encountered by all other methods. The studies of Freund, Bordet and Gengou have demonstrated that blood introduced into the vessels coated with paraffin or petroleum remains uncoagulated for several hours. Practical use of this method was made by the authors. Usual instruments for exposure of the vessels and sutures of wounds were used and one especially constructed ground glass or metal Y-cannula was used. The cannula consists of a neck and two arms. The tips are two or three millimeters in diameter and are provided with slightly raised collars to guard against the slipping of the ligatures. The neck of the cannula has a conical lumen which forms a firm, smooth union with

the end of the Porges syringe which is inserted into its base. The syringe and cannula being sterilized are fitted together under aseptic technic and uniformly warmed over a flame. About 25 c.c. of sterile hot petroleum is then aspirated into the apparatus and after the latter is thoroughly and rapidly coated by working the piston up and down the excess is forcibly ejected through the ends of the cannula. The medium basilic or other prominent vein of the elbow region is now exposed in both donor and recipient for a distance of 2 or 3 inches. The vein of the recipient is ligated at the end toward the hand, stripped of blood toward the heart, and a rubber-protected vessel clamp applied as far as possible away from the ligature. A clamp is then applied to the distal end of the donor's vein, the vessel is stripped toward the heart and ligated proximally. Each vessel is in turn cut squarely across near its ligature, caught up at three equidistant points by mosquito forceps and irrigated with warm salt solution, a cannula end is introduced into each vein, and tied in position so that one cannula is continuous with the recipient's vein and the other with the vein of the donor. The clamp of the donor's vein is released, and a syringe-full of blood is carefully aspirated; the clamp is then replaced and the one on the recipient's vein removed. The blood is very slowly injected into the recipient and the clamp applied. This procedure is then repeated until sufficient blood has been transfused. The advantages claimed for this method are: first, the amount of blood transfused can be accurately measured; second, the rate of flow may be definitely controlled; third, there is simplicity of technic with great saving of time. In emergency cases this should be of great benefit. Fourth, success in the transfer of blood is assured. Fifth,

there is lessening of danger of transfer of disease of recipient to donor.

There are other methods for transfusion of blood and an ingenious one devised by J. E. Jennings, who opens both saphenous veins above the ankle. He places the donor in an elevated position of 45 degrees from the horizontal on a table, the end of which can be pressed down to the floor, each patient lying with his feet toward the middle of the table, and so placed that the malleoli are opposite. The long saphenous veins of both subjects are cut down on and freed for an inch or so. He states that this vein, which is under the skin, anterior to the internal malleolus, may be rolled under the finger and is constant in that position. He states that if the patient be given venous blood he will soon aerate it himself.

INDICATIONS

What are the indications for the transfusion of blood? H. P. Cole reports twenty cases of pellagra which he and Dr. Gilman J. Winthrop of Mobile, Ala., transfused with blood. All cases were moribund at the time of transfusion. There were twelve recoveries and eight deaths, or a recovery of 60 per cent. Their experience in twenty cases led them to recommend transfusion in the terminal stages of this disease, when other available measures have been used without success.

Jones and Winn¹ state that in acute hemorrhage where the source of bleeding can be controlled, transfusion furnishes the ideal treatment and has invariably been a life saving measure when done by competent hands, before irreparable damage has resulted from anemia of the nervous system.

Transfusion for hemorrhage in typhoid fever has been practiced a number of times

1. Atlanta Journal Record of Medicine.

successfully where ordinary measures have failed. It cannot be expected, however, to prevent hemorrhage from new points of ulceration in typhoid. In chronic gastrointestinal hemorrhage transfusion not only may replace the loss of blood, and the patient gain strength to warrant an operation, directed toward hemostasis, but the effect of the donor's blood may even go so far as to prevent further bleeding, and accomplish a cure when all other methods of treatment have been of no avail. In intractable postoperative hemorrhage transfusion offers a resuscitation of the patient by a restoration of the lost blood so that radical steps can be taken to secure the bleeding point. In some instances transfusion has exerted seemingly an influence toward the spontaneous checking of hemorrhage.

Crile furnishes excellent reports of hemophilia treated by direct transfusion of blood. In every case there was immediate temporary cessation of hemorrhage. In two of his cases hemorrhage soon recurred to be followed by hemostasis.

Newell reports one case occurring in a new-born child in which immediate stoppage of hemorrhage occurred as soon as the effect of the donor's blood became evident in the recipient.

Goodman recently reported a case in a child $2\frac{1}{2}$ years old of transfusion as a last resort. Hemorrhage stopped and child began to improve immediately.

Melena neonatorum, which has hitherto been unavailable for treatment by any other measures has been found amenable, and no doubt transfusion will save a majority of these patients. Welch reports eight successive cases with good results where he, instead of directly transfusing blood from donor to recipient, introduced sterile human serum (blood) subcutaneously in doses of 10 c.c. at a time, and repeated after several hours if necessary.

The authors believe, however, that transfusion is more advantageous in that it stimulates the patient, replaces the lost blood, and is equally effective at least as a curative measure.

Definite conclusions cannot be formed at present in reference to the cure of purpura by transfusion. It appears to probably be of value.

The success of Pool and McClure and others in transfusing for secondary anemia leads authors to believe this method of treatment to be worthy of note.

Shock is treated much more satisfactorily by transfusion than by any other measure. Combined hemorrhage and shock has been as successfully treated by transfusion as has been experienced in shock from trauma, etc.

Crile showed from experiments that transfusion saved about 60 per cent. of illuminating gas-poisoned dogs, if the transfusion was accompanied by rhythmic pressure on the thorax, artificial respiration and bleeding. Those cases treated by either simple manipulation, bleeding, of saline transfusion all died.

Cole reports satisfactory results from transfusion in pellagra cases, but authors do not think the method a rational one outside its general tonic effect.

A review of the literature appears to show that there is no evidence that transfusion influences favorably leukemia, pernicious anemia, carcinoma, toxemia, certain drug poisons, acute hyperthyroidism or uremia. In sarcoma there is some evidence of good resulting. The results in tuberculosis have been discouraging. Cases of suppuration are benefited and rendered safe surgical risks.

CASE REPORTS

We desire to report two cases of the direct transfusion of blood performed on human patients within the last nine

months. The operations were performed by the use of the Crile cannula, artery to vein anastomosis, and the technic in each case was the same.

The first case was one of typhoid fever of extremely virulent character, where all the ordinary means of treatment were instituted without avail. The patient was almost moribund from the severe toxemia. Dr. J. B. Whinery, the attending physician, called consultation in which it was determined to perform a blood transfusion. Little hope, however, was entertained at that time that this measure would do the patient any permanent good. In this case the father was the donor, he being a man who seemed to be in perfect health. Donor and donee were taken to the operating room, where the left arm of the former and the same arm of the latter were prepared under aseptic precautions. A very mild solution of cocain and adrenalin (1/10 of 1 per cent. cocain) was used as a local anesthetic. The radial artery of the donor was exposed for a distance of about an inch and a half while the median basilic vein of the donee was isolated ligated, and cut. By the use of the Crile cannula the vein and artery were connected and arterial blood was permitted to flow into the recipient's vein. It was impossible to determine how much blood was transfused in this instance; however, the vessels were left connected for about twenty minutes. The patient did not show much improvement and died within twelve hours. We were unable to get blood-counts in this case either before or after transfusion.

The second case was one of septicemia following an operation for superative appendicitis. The patient suffered for six weeks and became so debilitated that her blood-count became as low as two million five hundred thousand red cells per cm. with a haemoglobin of 40 per cent. No treatment seemed of any avail and as a last resort transfusion was advised. The donor in this case was a relative of the young patient and was an unusually vigorous and healthy man. No trouble was experienced in isolating both artery and vein but it was very difficult to attach the artery to the cannula. The adventitia frayed when taken hold of by the mosquito forceps, three pairs of which were used in our effort to get the artery over the vein. The connection being finally made, the vessels were kept connected for about twenty minutes.

The patient rallied noticeably after this transfusion and had a much better night than she had had previously. However, she went into collapse within twenty-four hours, and died very suddenly.

One cannot feel very proud of a mortality of 100 per cent. in these two first cases, probably the first two cases of blood-vessel surgery that have been done in our city. While the technic in these cases was such as one would expect from the efforts of one who was a novice in this branch of surgery, yet we are confident that these cases were such as would not have recovered in any one's hands.

The question of whether there is danger to the recipient from blood transfusion has occasioned some controversial literature. In a recent book Crile discusses hemolysis and describes the technic of making hemolytic tests.

Subsequent to this work it is said that he has stated that for all practical purposes the dangers of transfusion are too small to consider them if the indications for transfusion are great. If there is time and if there are facilities for doing it, the hemolytic test should be made. He states that hemolysis between the donor's corpuscles and the patient's serum will do little harm, but reversed hemolysis, that is between the donor's serum and the patient's corpuscles, strictly contra-indicates transfusion.

In summing up his results from hemolytic tests Crile states that in the interpretation of results and their clinical application experience has shown that the occurrence of hemolysis invitro before transfusion does not necessarily indicate that it will occur in the vascular system of the recipient after transfusion. He emphasized the fact that our knowledge of hemolytic reactions and their significance is still in a very rudimentary stage.

In reviewing the literature concerning the direct transfusion of blood one cannot but feel that it is a life-saving measure in certain selected cases. It behooves the surgeon to equip himself with the necessary instruments and other apparatus necessary for the performance of this operation. Animal experimentation would

improve the surgeon's technic and should be practiced before it is done for the first time on a human patient. Hospitals should be equipped with complete and practical transfusion sets. The operation, while delicate, should be neither dangerous to the donor nor to the recipient.

The Hospital Year.—J. M. Dodson, Chicago (*Journal A. M. A.*, August 24), notices the remarkable advance in the requirements of the medical curriculum in recent years, and says that this advance has not always, in its details, been as wisely made as it should have been. When the general increase was made from three to four annual sessions of the medical course it would have been better had the additional requirements been made in the preliminary studies. At present the premedical curriculum may be regarded as satisfactorily determined for the time, and the advance that is most needed now is the addition of a fifth or practical year of service as intern in a hospital, under due supervision, to the present course of study. The opportunities for practical experience of this kind have enormously increased. It may be conservatively estimated that there are 700 hospitals in the country averaging fifty beds, or a total of 90,000 altogether. Several of the stronger medical schools report that all of their graduates have been able for the last four or five years to obtain internships in a good hospital. Optional fifth-year courses have been arranged for in several medical schools, and in one made compulsory, as is the case in Germany, France and Great Britain. Dodson thinks that this is desirable and practicable in a school that is prepared for it and can furnish the proper conditions, but it will be a mistake for medical schools to adopt it, because the idea is in the air. He discusses the relations that should exist between medical schools and hospitals and the advantages to the latter from such connection, showing that the objections that have been made are invalid. The present unsatisfactory conditions of political control of public hospitals in this country is a drawback which must be overcome, and the medical school, with rare exceptions, must obtain its hospital connections with establishments on a pecuniary foundation distinct from that of the medical

school itself, and he gives his ideas on the essentials which must be provided, the regulations prescribed for the intern and the relations of the members of the hospital staff, not members of its faculty, to the medical college. The rules adopted by Rush Medical College for its optional fifth year for the *cum laude* degree he considers perhaps a little too rigid and liable to take up rather too much of the intern's time. The amount of routine work demanded in many hospitals is too great, but this should not be the case. On account of the difficulties which he perceives in the way, great care and deliberation should be exercised on the part of any medical school proposing to make a fifth or intern year a compulsory addition to its curriculum.

A Skilful Chinese Physician of the Thirteenth Century.—The following extract is from the *San kou chin yen* (Story of the Kingdoms) by Lo Kuan Crung, who lived in the time of the Yuen Dynasty (1279-1368 A. D.). "Dr. Hua is a mighty skilful physician and such a one as is not often to be found. His administration of drugs and his use of acupuncture and counter-irritants are always followed by the speedy recovery of the patient. If the sick man is suffering from some internal complaints and the medicines produce no satisfactory result, Dr. Hua will administer a dose of hashish, under the influence of which the patient becomes as it were intoxicated with wine. He now takes a sharp knife and opens the abdomen, proceeding to wash the patient's viscera with medicinal liquids, but without causing him the slightest pain. The washing finished, he sews up the wound with medicated thread and puts over it a plaster, and by the end of a month or twenty days the place has sealed up. Such is his extraordinary skill." — *Northwest Medicine*, August, 1912.

TREATMENT OF ABDOMINAL ASCITES*

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Detroit

There is probably no development in the course of a number of diseases which is productive of more discomfort to the patient than abdominal ascites. Cabot¹ found that at the Massachusetts General Hospital, in 2,217 autopsies, there were 224 cases of ascites, showing that it is also of frequent occurrence. Of these 224 cases, eighty-nine came on from cardiac weakness, forty-four as the result of the presence of neoplasms, twenty-six as a consequence of renal disease, twenty-three from cirrhosis of the liver, fifteen from tubercular conditions and the others from a variety of causes. In a review of the cases occurring in the hospital service from 1870 to 1910, he found 1,397 cases consequent on cardiac weakness, 665 on renal disease, 325 from hepatic cirrhosis, 263 from peritoneal tuberculosis and eighty-six from intestinal obstruction.

Enormous quantities of fluid are retained in the abdomen. In 1721, Morand reported two cases of ascites, in one fifty-seven paracenteses, removing 970 pounds of fluid in twenty-two months, and in the other, by the same method, 1,708 pounds were withdrawn in ten months. More recently, Brand² reports that during ten years, he tapped a patient 150 times removing in all 360 $\frac{3}{8}$ gallons of fluid.

The purpose of this paper is to call attention to the fact that these patients are many times neglected, and to urge the

trial of some of the newer measures for their relief.

In undertaking the treatment of a case of this kind, a very careful examination of the patient is the first desideratum, determining in the first place, what is ordinarily not difficult to do, the first cause, as it will generally be either cardiac, renal or hepatic disease, a neoplasm, or tuberculosis. A full history is of special importance in the last two classes. The diet should be inquired into, especially to find out the fluid intake and the excretions, it being specially important by means of the estimation of the twenty-four-hour quantity of urine, to discover the amount of fluid loss by the ordinary channels.

GENERAL TREATMENT

The general treatment is then outlined. A diet with a low fluid content is customarily used; at any rate, it must be noted that the fluid loss is greater than the fluid intake. In many cases charming results are obtained by the use of absolutely dry diet. I am personally satisfied that it is important also to reduce the chlorin intake to a minimum. In one cardiac case in particular it was only after its institution that the edema disappeared, although all other usual measures had been tried.

The movements of the bowel should be increased by means of saline cathartics, usually one dram of magnesium sulphate being given every morning, increasing one dram a day, until the proper dose to produce two or three watery evacuations is

* Read at the Forty-Seventh Annual Meeting of the Michigan State Medical Society, Muskegon, July 10-11, 1912.

1. Cabot: *Am. Jour. of Med. Sc.*, Jan. 1912.

2. Brand: *Med. News*, Apr. 2, 1904.

discovered, when this is made a part of the daily routine. When the urine is insufficient in quantity, potassium bitartrate may be used both for its cathartic and diuretic effects, or where a stronger diuretic is indicated, there being no signs of acute nephritis, either theobromin and sodium salicylate, or caffein and sodium salicylate, which I have found especially serviceable in pulmonary edemas, may be used. When this renal insufficiency as well as the ascites are due to cardiac weakness, these same measures are used and treatment directed to the heart is begun. Digitalis is here supremely indicated, whether there is simply muscular weakness or incomensation developing as the result of mitral or aortic lesions. Strophanthin in 1 : 1,000 solution used intravenously can be depended on to produce the desired effects, and should be tried in all desperate cases. The use of some quieting agent is often necessary. The milder agents for this purpose may be used, such as the bromids or the valerianates, but resort to codein in $\frac{1}{4}$ - to $\frac{1}{2}$ -grain doses three times a day will often change a restless, retrograding patient into a quiet steadily improving one. It is needless to state that this remedy should be withdrawn at the earliest possible moment.

CONTINUOUS DRAINAGE

When these measures and also the use of hot packs, etc., have failed, the usual custom is to resort to tapping, a measure which dates back some hundreds of years, and generally at this point our attempts at relieving our patients rest. Caille,³ in 1882, however, reported two cases which he treated by continuous drainage, and in one a rubber cannula was left *in situ* about nine weeks, the opening closing spontaneously four weeks later, both cases showing marked improvement. Turner⁴ says there

is a tendency to dispense with drainage, because of the inconvenience of the tube, and the risk of septic peritonitis, but declares he has never seen a case die from sepsis, and to his mind drainage is important, as some cases have been cured by this measure alone. It is to this measure I wish to give special emphasis at this time on account of some recent experiences with it in connection with three cases.

CASE REPORTS

CASE 1.—The first case I saw in the fall of 1909 was a cardio-renal one; a man 55 years old with great diminution in the urinary quantity, large amount of albumin and casts with mitral regurgitation, marked abdominal ascites. The patient could only sleep in an upright position, suffering greatly from orthopnea, and had not been in bed for weeks. He became very ill about Christmas and was considerably relieved by tapping. As his trouble recurred as soon as the wound closed we determined to do continuous drainage, which was done, using for the purpose a female bent glass catheter to which was attached a small piece of rubber tubing controlled by a valve. The tube was opened night and morning and the fluid collected allowed to drain and the glass catheter removed at least once a week and cleansed, and at other times if obstructed. The tube was left in between three and four weeks at the end of which time it was removed. Almost immediately after insertion of the tube improvement began. The urine increased in quantity, the albumin decreasing, his appetite returned and he was able to sleep in bed. This patient died seventeen months later, falling dead upon the street. There was some recurrence of ascites but only enough to necessitate a single paracentesis. This man's life was therefore prolonged and made far more comfortable by this means.

CASE 2.—A recent case, Mrs. B., 61 years old, a case of general arterio-sclerosis with failing heart, with marked edema in lower extremities and abdominal ascites, suffered greatly from anginal pains in the abdomen, was drained Jan. 9, 1912, in the same way, the tube being removed January 25. On the first insertion of the tube 2 gallons of fluid escaped. She was much relieved by this measure, the pains were practically done away with,

3. Caille: N. Y. Med. Jour., 1882.

4. Turner: British Med. Jour., Oct. 23, 1909.

and the patient expressed great satisfaction with the procedure and result. On February 5 unfortunately for further observation of the case, an attack of angina pectoris supervened with a fatal outcome.

CASE 3.—Another case in St. Marys Hospital occurring in Dr. Donald's service in May, I drained in the same way, but the tube was only necessary three days. This was a case of plain cardiac weakness following mitral regurgitation and the usual remedies digitalis in the form of the tincture and digipuratum one tablet three times a day, with the administration of saline every morning combined with a dry diet, sufficed to relieve this patient, who when she came into the hospital was so anasarctous there was oozing of fluid from the abdominal flanks as well as the legs, and the patient had to sleep in the upright position, being unable to move about.

By courtesy of my father, Dr. W. J. Wilson, Sr., I am able to report two cases, one a cardio-renal case and the other a case of hepatic cirrhosis, both drained in this way with happy results, rubber drainage being used in both cases. As a result of experience with this method, it seems to me to merit wider use, or at least trial before attempting some of the more radical procedures which are now being used.

OPERATIVE PROCEDURES

The subcutaneous method is now made use of by several operators. Piper's⁵ method consists in opening up the crural canal and stitching it open so that continuous drainage from the abdomen through it into the subcutaneous tissues was secured. Obviously this treatment is only of value where the cause of the stasis is in the abdomen, particular in cirrhosis of the liver. He reports great relief in one case. Buttons consisting of perforated glass cylinders, expanded into a flange at each end, the largest size measuring 1 inch across the flange, and having a canal 1/12 inch in diameter, are also used. When these are used the omentum is first re-

moved to a point well above the upper point of the incision, and the button inserted, one flange resting inside the peritoneum, the other on the abdominal aponeurosis. Paterson⁶ reports their use in several cases of ascites secondary to malignant diseases, and also in cases of cirrhosis of the liver with marked diminution of the abdominal distention and great relief to the patient.

Implantation of the saphenous vein for ascites due to hepatic cirrhosis has also been done with success where the vein is not either excessively small nor occluded. Volarelli⁷ reviews the five cases on record, three with success, as the conditions in the vein were favorable.

The most extensive operation is described by Ram,⁸ who describes his procedure in a patient who had been tapped a number of times over a two-year period for an ascites due to cirrhosis of the liver. The abdomen was opened through the right rectus, the incision 6 inches long being made, extending from a point 3 inches below the umbilicus. When the omentum was found crumpled up and already adherent to the bowels, the anterior surface was rubbed and stitched up to the parietal peritoneum, around the umbilicus and on either side of the incision.

The anterior and outer surfaces of the liver were rubbed with gauze as well as the parietal peritoneum opposing these surfaces. A drainage tube was put in the middle line 2 inches above the pubes. On the tenth day the tube was taken out. The woman has not been tapped for the last ten months, there is no fluid present, and she is about her usual work. As necropsies have shown that Nature many times pro-

6. Paterson: London Lancet, Oct. 29, 1910.

7. Volarelli: Policlinico, Rome, Nov. 20, 1910.

8. Ram: British Med. Jour., July, 17, 1909.

5. Piper: Australian Med. Jour., Jan. 13, 1912.

duces a spontaneous relief in this class of cases by these very means, this operation is on a rational basis and may be expected to bring results in suitable cases.

CONCLUSIONS

1. There is general neglect of attempts at improvement in management of our cases of abdominal ascites.

2. These patients' lives may be prolonged and made more comfortable by various simple operative procedures.

3. When dietetic and drug measures fail to relieve, continuous drainage should be

instituted, except in syphilitic cases where there is no improvement.

4. When ascites recurs after the removal of the tube in cases due to local conditions in the abdomen, drainage into the subcutaneous tissues may be used, or a more extensive operation in suitable cases, whereby adhesions may be set up between omentum, liver and spleen and the parietal peritoneum. In drainage into subcutaneous tissues, when there is a new growth or tuberculosis of the peritoneum the possibility of spreading the disease must be borne in mind.

WHO SHALL PAY?

Why should the household in which a case of *small-pox* develops (as a consequence of non-vaccination through neglect or refusal) become a charge upon the municipality or county, except in strictly indigent cases?

Why should the household in which a case of *typhoid fever* develops (as a consequence of drinking city water contaminated with city sewage) not become a charge against the municipality regardless of the financial conditions of the case? . . . That a hundred cases of small-pox should cost a county \$25,000, and two hundred cases of typhoid fever should cost the county only a couple hundred dollars is not consistent. Too many people are too well paid for having small-pox. It is time that we take care of the family invaded by typhoid fever due to improperly protected public water supplies, and let the man who gets small-pox because of non-vaccination, hustle to pay his own bills.—*Public Health*, Michigan, August, 1912.

In Michigan more than 200 people die of tuberculosis each month, year in and year out; the economic loss to Michigan due to tuberculosis is \$20,000,000 annually; 52 per cent. of the school teachers who die between the ages of 25 and 35 in Michigan, die of tuberculosis; one-fourth of all the people who die between ages of 25 and 35 in Michigan, die of tuberculosis.—*Public Health*, Michigan, August, 1912.

SURGICAL SUGGESTIONS

American Journal of Surgery

If the administration of thyroid extract to a patient suspected of exophthalmic goiter increases the symptoms the diagnosis is more probable.

Pneumogastric paralysis after an operation involving manipulations about the nerve, *e. g.*, removal of tuberculous cervical lymph nodes does not necessarily indicate that the nerve has been accidentally cut or tied. The condition may be transitory and result from traumatic or inflammatory irritation.

When there is persistent irritation of the throat without local cause, examine the chest. This may be one of the earliest symptoms of mediastinal tumor or enlarged bronchial glands.

Irrigation of the throat with ice water from a fountain syringe will relieve the congestion and the pain in acute follicular tonsillitis.

Silver wire sutures and wire filigree are useful in those hernioplasties in which a large gap cannot be closed by approximation of the tissues, or in which the tissues are so thin that when approximated, they cannot be expected to provide support. In all other hernioplasties it has not been demonstrated that wire possesses any advantage over well chromicized catgut or kangaroo tendon. The prevention of recurrence, in hernioplasty, depends not on what the surgeon puts in his suture, but on what he puts his suture in.

THE USE OF SALVARSAN IN INTESTINAL KERATITIS; REPORT OF TEN CASES*

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The results obtained from the use of salvarsan in interstitial keratitis have been somewhat variable, but by far the majority of the published reports lead to the conclusion that it has a markedly beneficial effect on the vascularity and consequent subjective symptoms of the disease, but has little or no effect on the corneal infiltration.

As early as 1910 Lindenmeyer, in a report of five cases in which he had administered "606," makes the following statement:

"All the cases treated by the new remedy had already been submitted to an inunction cure, some of them on several occasions. In four of the cases, there had been marked photophobia before the injections. For the most part the eyes were only half opened and were very sensitive to the ordinary examination. The photophobia had nearly completely disappeared sometimes in ten hours, but certainly in twenty-four hours after the injection. The eyes could be well opened and examined under local illumination. No results as regards the corneal process itself, has so far been observed, but the period of observation has been too short to allow of a trustworthy opinion being formed on this point."

Denig (1910) stated that two cases of interstitial keratitis rapidly responded to salvarsan. Nacht's experience (1910) comprises thirteen cases of ocular syphilis treated with "606." Ten were failures, three successes. Of the ten failures, five

were tabetic atrophies, the remainder parenchymatous keratitis, chronic iridocyclitis and vitreous opacities. Wilbo, on the other hand reports the cure of two cases of interstitial keratitis both giving positive Wassermann reactions. Fleming's reports of the action of salvarsan in 180 cases of ocular syphilis includes twelve cases of interstitial keratitis not one of which showed a definite recovery four months after its administration; in some the inflammatory signs diminished, in others there was no improvement. Uhthoff (1911) found salvarsan of no avail in interstitial keratitis. Wickerkiewicz expressed himself as follows:

"Apart then from the very remarkable effect of salvarsan in cutting short a severe inflammatory condition, I am in agreement with those of my colleagues who are not enchanted with salvarsan in the treatment of congenital syphilitic interstitial keratitis, while at the same time I do not deny to it any effect. The truth lies midway. Seidal E. treated nine cases of acute interstitial keratitis with satisfactory results in all except two cases. Schnawdigel after treating twenty cases reported admirable success in all but one case. The failure was in a case of interstitial keratitis, commenting upon which the author remarks that, owing to the indirect blood-supply of the tissue, the cornea is one of the most difficult parts of the body for the action of antisyphilitic remedies."

The results I wish to present to the society were obtained from a series of ten cases of specific interstitial keratitis. Eight of them from the Ophthalmological Clinic of the University of Michigan and

* Read at the Forty-Seventh Annual Meeting of the Michigan State Medical Society, Muskegon, July 10-11, 1912.

two from private records. Five were males and five females, in ages varying from 5 years to 19 years. Nine were affected with interstitial keratitis of the hereditary type and one of acquired. All gave a positive Wassermann.

All states of the disease are represented, the time elapsing from the time of onset until they came under observation ranged from three weeks to four years. All were treated with salvarsan, in doses from 0.2 gm. to 0.6 gm. according to the age of the patient. Four received a single dose, four two doses; one three, and one five. The local treatment consisted of the use of atropin, hot-water compresses and dionin 10 per cent. sol; the general treatment in addition to the salvarsan included syrup of the iodid of iron, or mercury, either internally or by inunctions.

A detailed record of the cases will not be given, but an outline of the history of each case follows:

CASE 1.—I. C., girl, aged 13 (first cousin of Cases 2 and 3), first visited the University Clinic on February 26, 1911, complaining of dimness of vision and marked photophobia of two months' duration. Examination revealed a typical case of interstitial keratitis of the inflammatory type. The vision was reduced to fingers in each eye. Wassermann was positive. She was treated with syrup of the iodid of iron internally, and atropine, hot water compresses locally. This treatment was continued for five months and no observable effects were produced. At the expiration of this time, a dose 0.2 gm. of salvarsan was given. In 24 hours the photophobia had disappeared and the vascularity in both the conjunctiva and cornea had become markedly lessened. The eyes could be kept open and an examination that had previously been almost impossible could now be made without difficulty. The infiltration in the cornea did not show marked change although on January 25, 1912, eleven months after her appearance at the clinic, the vision in each eye was 6/6 and the cornea was nearly clear.

CASE 2.—N. C., girl, aged 14 years. When first seen on November 23, 1911, had suffered from the effects of interstitial keratitis for the preceding eighteen months. Vision in each eye was 3/60. She gave a history of having had intense photophobia for the first six months, but during the past year there had been but slight intolerance of light. Examination revealed slight injection of bulbar conjunctiva with some superficial and deep injection of the cornea. The whole cornea was infiltrated, somewhat mottled in appearance. Wassermann positive. She was treated with the regular local remedies and syrup of the iodid of iron for a period of 3 months, without any marked improvement. Following this a dose of salvarsan was given intravenously. This was followed by marked improvement in the vascularity, but again with little or no improvement in the infiltration. On April 26, 1912, more than six months after the salvarsan had been administered the Wassermann was negative, eye quiet, but no more effect in the infiltration was noted than might have followed the regular treatment. Vision in each eye was 6/15.

CASE 3.—I. C., girl, aged 10 years, sister of Case 2. First seen Nov. 23, 1911, vision in each eye 5/60. She had suffered from inflammation in the eyes with impaired vision for the preceding four years. At the time of the first examination there was no photophobia and the cornea showed but slight vascularity. There was marked infiltration scattered irregularly throughout the deeper layers of the cornea. Wassermann was positive. In addition to the regular local treatment and the syrup of the iodid of iron, this patient received 0.3 gm. of salvarsan. No marked change followed although the Wassermann was negative on April 30, 1912, six months after the salvarsan had been administered, and on June 6, 1912, the vision was O. D. 6/12, O. S. 6/5. Whether the use of salvarsan had any beneficial effect or not, I am unable to say.

CASE 4.—E. R., male, aged 19, showed typical case of interstitial keratitis of the inflammatory type, of four months' duration. The vascularity was well marked and photophobia intense. Wassermann was positive. Local treatment and protiodid of mercury internally. Salvarsan 0.6 gm. was given intravenously and repeated after an interval of four weeks. On the second day following the administration of the salvarsan, the vascularity was markedly diminished and the photophobia nearly gone.

The vision could not be taken at first on account of the photophobia. Six weeks after the initial dose of salvarsan the vision was O. D. 5/15, O. S. 5/15. In this case the disappearance of the infiltration was more marked than usual.

CASE 5.—Male, aged 18. First seen Feb. 9, 1912. For preceding 4 weeks had suffered dimness of vision with intense photophobia and excessive lachrymation, coming on in the course of a few days. His back was covered with a copper colored rash, and he had mucous patches on the posterior wall of his pharynx. Conjunctiva was extremely congested and cornea showed deep infiltration. Iris inflamed, pupil contracted, many posterior adhesions. Wassermann positive. A dose of 0.6 gm. salvarsan was given intravenously and repeated in four weeks. After the first injection the pupil partially dilated and there was a marked improvement in the subjective symptoms. After the second injection of salvarsan, there was a more decided improvement in the photophobia and the vascularity greatly diminished. One week after the second injection he left the hospital and failed to report for re-test. The vision which we were unable to take at first was O. D. 1/60, O. S. 6/20.

CASE 6.—A. W., girl, aged 15 years. Old scar in cornea following interstitial keratitis of four years' standing. Wassermann positive. Salvarsan administered without appreciable effect.

CASE 7.—A. W., girl, aged 5 years, sister of Case 6. First seen Sept. 29, 1911. Interstitial keratitis of inflammatory type of 3 weeks' duration. Wassermann positive. Salvarsan 0.4 administered intravenously. Subjective symptoms improved. No later records obtainable.

CASE 8.—L. F., male, aged 18 years. First seen March 18, 1912, interstitial keratitis right eye, inflammatory type, vision O. D. 5/60, O. S. 5/15. Some photophobia. Deep and superficial injection of right cornea. Given hot water and atropin locally, protiodid of mercury internally. After three weeks' treatment the Wassermann was positive. A dose of 0.6 gm. of salvarsan was administered intravenously. No marked improvement in the symptoms followed. One week later a second dose of 0.6 gm. of salvarsan was given. Marked improvement of subjective symptoms in less than 24 hours. After four weeks the Wassermann was still positive when a third dose of 0.6 gm. of salvarsan was given. The third dose was followed by a marked im-

provement in the subjective symptoms. Wassermann negative.

CASE 9.—Male, aged 19. First seen Jan. 26, 1912. Well marked case of keratitis profunda of Fuchs with iritis of 3 weeks' duration. Vision O. D. was 15/200; O. S. fingers 1 ft. Atropin and hot water were used locally and inunction of Vasogen twice daily. Wassermann positive. 0.6 gm. salvarsan administered and not repeated. The subjective symptoms were somewhat relieved in spite of the fact that the Wassermann remained positive until two months after the treatment was begun. Three months after treatment was instituted the vision was O. D. 15/30, O. S. 15/20. The course of the disease was shorter in this case than in the average.

CASE 10.—Male, aged 17 years. First seen March 4, 1912. Typical case of interstitial keratitis of the inflammatory type, first appearing in right eye. The left eye became involved while under observation, in spite of inunctions of mercury and injections intravenously of salvarsan. Vision, O. D. objects, O. S. under atropin 15/30. Five Wassermann examinations were made, all but one being positive. Following each positive Wassermann test a dose of salvarsan was given, five in all and not until the fifth dose was given could any improvement be noted in the symptoms. But after the fifth dose there was a most remarkable relief of all subjective symptoms. The photophobia which had been very severe disappeared almost entirely within 24 hours and the vascularity diminished markedly, 3 days later, however, the Wassermann was positive. As in the other cases, the infiltration does not clear in proportion to the subjective symptoms.

The above series confirm for the most part the opinion of the majority of observers on this subject, namely, that salvarsan in specific interstitial keratitis has a marked beneficial effect on the subjective symptoms, but has little or no effect on the infiltration. In Case 10, however, the course of the disease in the eye which developed last was shorter in duration, and the vision now is better in the eye last involved. It would appear, therefore, that the constitutional treatment had modified the course of the disease.

In two cases, the syrup of the iodid of iron had been administered from three to five months, and at the end of that time the Wassermann test was still positive. It would seem, therefore, from these two cases that the administration of iodine in this form had had no effect whatever on the disease itself.

The best results should be obtained in interstitial keratitis as in other manifestations of syphilis, by the use of the remedy that best combats the general infection. That salvarsan alone will do this has not yet been proven. All observers now practically agree that salvarsan when used

should be accompanied by mercury in some form.

The above cases are offered for the purpose of extending the data to the list of cases already reported, in the hope that ultimately enough material may be collected to make definite conclusions possible.

I am indebted to Dr. Slocum and Dr. Benedict of the Ophthalmological Clinic of the University of Michigan for notes and treatment of the first eight cases in this series, and to Dr. Waldeck and Dr. Sill of Detroit for like assistance in the last two cases. To these gentlemen I wish to express my thanks and appreciation.

TRAINING OF THE PRACTITIONER

In an interesting address delivered before the graduating class of the St. Louis (Mo.) University Medical School, May 31, 1912 (*Journal A. M. A.*, August 24), S. J. Meltzer, New York, emphasizes the fact that the medical profession of any country is measured by the standing of the general practitioner and not by that of its leaders. He does not advise unattainable ideals, but urges on the graduate in medicine the necessity of acquiring the fundamentals and essentials of medical practice. The general practitioner should try to know from the beginning the essential facts regarding the serious diseases and emergencies which he is likely to meet. He does not mean to have him take up the theoretical questions at first, but rather to master the practical sides. Be careful, he says, in the selection of text-books, picking out the important chapters, and not taking for granted that one knows everything because one has successfully passed examinations. Remember that book knowledge only becomes valuable after it has been tested in practice. He advises the student to get, if possible, a dispensary service, but be on his guard against superficial and careless methods. A practice slowly gained is better for ultimate success than one rapidly reached. While learning in practice how to meet the usual disorders, one can

fill up the gaps in his knowledge regarding the less frequent diseases, and can learn the technic of the ordinary operations, the diagnostic and therapeutic measures and the technic of microscopic work. Further than this, every practical physician should try to keep up some affiliations with the scientific side of medicine, and it would be a great help if he can familiarize himself with some important chapter of physical or chemical pathology or of physiologic pathology, and thus train his mind to meet the problems and elevate his standard. Meltzer does not encourage any too general skepticism as to the value of medicinal agents, but he warns against the danger of unequivocally accepting the statements in favor of special drugs and methods. He says, do not practice psychotherapy consciously, for thus one trains himself to be a humbug. It is the duty of every enlightened physician to do what he can to protect the public, but at the same time he ought to see that no measures, and especially no harsh measures, should be taken against stricken patients "based only on whims and ephemeral theories of half-baked sanitarians," and that any measures should not be carried out with harshness. Lastly, he mentions the high standard of ethics demanded of the physician by the higher trust placed in his profession. A physician who is ethically not higher in his standards than the average man is lower.

THE NATURE, SYMPTOMS AND TREATMENT OF THE TOXEMIAS OF PREGNANCY*

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In trying to reach a satisfactory explanation as to the exact nature of the toxemias of pregnancy, we are confronted by a maze of theories, none of which gives us a positive answer. The course of normal pregnancy is in many instances but little removed from the pathologic as evidenced by the disturbances of the gastro-intestinal tract, nervous system and circulation, due to intoxication, altered metabolism or pressure from the enlarging uterus. Aside from the usual bodily functions, the maternal organism is called upon to elaborate and supply nourishment for the growing child and to receive and eliminate many waste products of fetal metabolism.

Autopsies performed on pregnant women who have died from some accidental cause show very constant pathologic conditions in various organs. The kidneys show a varying degree of fatty and parenchymatous degeneration, while the liver shows fatty degeneration in the center of the lobules, atypical distribution of glycogen and a moderate amount of bile stasis. These findings together with the symptoms prevalent during pregnancy show various degrees of toxemia. Ewing¹ states that pernicious vomiting, acute yellow atrophy and eclampsia are somewhat different clinical manifestations of essentially the same disorder of metabolism.

We have to choose from a number of theories among which may be noted:

1. A previous pathologic change in the kidneys or liver.
2. Errors in diet and intestinal intoxication.
3. Disturbance of the thyroid, parathyroid or adrenal glands.
4. Cessation of menstruation.
5. The presence of a specific toxin in the placenta.
6. Veit's theory of deportation of placental cells.
7. A change in the proportion of sodium, potassium and lime salts in the circulating fluid.
8. A very recent theory advanced by Healy and Kastle² comparing eclampsia with milk fever in cattle and referring the cause of both conditions to a toxin elaborated in the milk glands.

In general the relationship between the various forms of toxemia in pregnancy is not clearly understood. There appear to be many intermediate and atypical cases, and a case of hyperemesis or nephritis may later in pregnancy become a typical case of eclampsia. Murray³ believes that all the pathologic lesions found in the various clinical forms are caused by one type of toxin acting under different circumstances. Whitridge Williams, on the

* Read at the Forty-Seventh Annual Meeting of the Michigan State Medical Society, Muskegon, July 10-11, 1912.

1. Ewing: *Am. Jour. Med. Sc.*, 1910, cxxxix, 828.

2. Healy and Kastle: *Jour. Infect. Dis.*, 1912, x, 226.

3. Murray: *Jour. Obst. and Gynec. Brit. Emp.*, 1910, ii, 225.

other hand, thinks that the pathologic picture found in fatal vomiting is so different from that in eclampsia that no one could assign to them a common cause. He would even go so far as to say that there are different forms of eclampsia due to different causes. It is generally agreed:

1. That all these conditions are of a toxic nature.

2. That the nervous manifestations are not the cause, but the result of the condition.

3. That many factors besides absorption of a definite poison from the fetus and placenta are concerned in making up the clinical picture of the various types of toxemia.

4. That if a single toxin or type of toxin is the cause of all these conditions we do not at present know its exact nature, its mode of action or its point of origin.

It is believed by a few observers that many of the findings in hyperemesis are the result of starvation and that the peculiar findings in the urine are due largely to starvation rather than to toxic influences. They also believe that the pathologic findings in the liver are due to the same cause.

Hyperemesis gravidarum, or toxic vomiting of pregnancy, is an exaggeration of a usual morning sickness or nausea of pregnancy. A persistence of the vomiting soon results in a loss in weight, symptoms of starvation, increase in pulse rate and marked nervous disturbances. Some writers of recognized authority still maintain that a certain percentage of cases of pernicious vomiting are due to reflex rather than toxic causes. The urinary findings are of considerable value in both diagnosis and prognosis. Hotaling⁴ lays great stress on the value of quantitative estimation of the different forms of nitrogen eliminated in the urine. He calls those cases toxic

in which the ammonia nitrogen rises to 10 per cent. or over. If it is below this point he designates the case hysterical vomiting. In judging the value of these urinary examinations we must always take into consideration the diet of the patient, which in private practice is more or less uncertain. The incessant vomiting, too, obscures the amount of nitrogen obtained, and the starvation itself produces changes in the urinary excretion not unlike those supposed to result from the toxemia. Repeated analyses of the urine should be made in order to insure accuracy of result. The urine is usually free from albumin and casts until the grave symptoms of the terminal stage are reached.

There is a growing tendency toward the belief that the disturbance of function of such glands as the thyroid, parathyroid and adrenals has something to do with the toxemias of pregnancy. Experiments have proven that there is an increase in ammonia in the urine after the removal of the thyroid and parathyroid glands, and that there is a loss of calcium in the circulating fluid after the removal of the parathyroids.⁵ (The therapeutic tests by the use of thyroid extract, epinephrin and calcium lactate have helped to strengthen this belief.) It is quite probable that toxemia is due to an accumulation in the mother of a whole series of toxic substances whose neutralization or excretion has not been fully accomplished by the over-taxed organs. We cannot at present say just how much the liver and kidneys are concerned in the early forms of toxemia, but it is probable that the liver is affected before clinical signs are manifest.

In a considerable number of cases showing toxic symptoms there are found definite signs of a nephritis. The nephritis may have existed previous to the pregnancy, may have been caused by a toxemia

4. Hotaling: *Am. Jour. Obst.*, 1911, p. 952.

5. *Bull. Johns Hopkins Hosp.*, 1908, xix, 91.

in a previous pregnancy, or may be the direct result of an existing toxemia. There is also a possibility of an acute nephritis developing from other causes during pregnancy. The typical kidney of pregnancy is more of a degenerative process than an inflammatory one and the ultimate prognosis is fairly good, as the condition usually clears up promptly when the fetus is expelled. A kidney which is already damaged by acute or chronic inflammation is not well able to stand the extra strain thrown on it by a normal pregnancy and much less able if there is toxemia.

We come now to a definite, clear-cut clinical picture—that of eclampsia. Eclampsia usually occurs in the later months of pregnancy, more frequently just before, during or after labor than earlier. Its frequency is usually given as one case in 350 pregnancies, and the mortality varies from 20 to 35 per cent.

Pathologically there are found as the most constant and characteristic lesions degeneration of the cells with necrosis at the periphery of the lobules of the liver, thrombosis of the capillaries, and hemorrhages. There are also found acute nephritis with necrosis of the epithelial cells of the urinary tubules and small hemorrhagic areas in the nervous system.

Veit elaborated a theory that portions of the chorionic villi were deported into the maternal blood-vessels, and that physiologically these portions were dissolved by certain specific lytic bodies in the maternal blood. He assumed that in some conditions larger quantities of the villi passed over than could be broken up by the lysins and that these unbroken or unneutralized syncytial cells acted as the toxin which produced the pathologic lesions and the eclamptic seizure. Many experiments have been performed bearing on this theory, but they have so far failed to satisfactorily prove it.

A great deal has been said in the last few years about the subject of anaphylaxis and its relation to eclampsia. Rosenau and Anderson found that repeated injections into a guinea-pig of human and animal placental extracts produced cyanosis, convulsions and death. Comparing these results with anaphylactic phenomena in general they concluded that the injections of placental extracts stimulated the cells of the host to form antibodies or, in other words, the guinea-pig became sensitized against placental cells. Similar results have been obtained by many others. The recent work of Johnstone in England, Felländer in Germany and Frank and Heimann in this country all point to the fact that the host's blood may be sensitized to any proteid from an animal of foreign species, but that placental cells do not cause the formation of a specific lytic substance.

Among the newer theories which are receiving only scant support is that of Dienst,⁶ who thinks that there is an exaggeration of the normal leukocytosis and that the breaking up of these leukocytes sets free large amounts of thrombo kinase which in turn forms excessive amounts of fibrin ferment. From this we have the thrombotic processes in the liver and a resulting hepatic toxemia.

TREATMENT

A great many remedies, none of which is a specific, have been used in the treatment of pernicious vomiting. I will not take time to enumerate the older remedies so familiar to all of you. This list includes not only the various drugs, but also those methods of treatment which have been distinctly applied to the uterus itself. In many cases good results have been obtained from these older methods and

⁶ Dienst: *Am. Jour. Obst.*, May, 1912, p. 876.

they should not be altogether discarded. The matter of diet will depend largely on the idiosyncrasies of the patient, and will have to be carefully selected for each individual case. At times very encouraging results are obtained by giving the stomach absolute rest and resorting to the use of nutritive enemata. Stomach lavage once or twice a day should be given a thorough trial. A solution of cane sugar or dextrose may be given by the stomach, bowel, subcutaneous or intravenous route to help in a way to overcome the effects of starvation.

Brown⁷ has used lactate of calcium in 30-grain doses every two hours, added to nutritive enemata with apparently good results. On account of the probable auto-toxic origin of pernicious vomiting from derangement of the function of the thyroid, parathyroid or adrenal glands a trial of the extract of these bodies should be made. I wish to say a word of caution against persisting in any conservative method of treatment so long that the patient will not recover even after emptying the uterus on account of the profound pathologic changes in the internal organs. An increase in pulse rate above 100 with slight rises of temperature and beginning mental disturbances certainly calls for radical measures. At this stage the condition of the patient is serious and the prognosis doubtful under the most skilful treatment. Before the third month the uterus is best emptied by means of a simple dilatation and the use of the finger, the curet or sponge forceps. After the third month, unless the uterus can be emptied by the means just mentioned vaginal cesarean section is probably the most satisfactory way of dealing with the condition. The method that causes the smallest amount of traumatism and is least likely to produce shock is the one to select.

In any of the toxemias of pregnancy, if an anesthetic must be administered, gas is much the safest, and ether is much preferable to chloroform on account of the latter's toxic effect on the liver.

In the treatment of the preeclamptic toxemias; early recognition and prophylactic measures will in many cases avert more serious complications later on. This involves careful supervision of the patient from the beginning of the pregnancy. Attention should be given to the eliminating organs, with special reference to the examination of the urine, not only as regards quantity, specific gravity and the detection of albumin and casts, but also for the estimation of the urea and nitrogen content and the amount of indican. The proportion of the different nitrogen combinations changes according to the degree of toxemia. Williams regards a high ammonia coefficient as a danger signal and believes that a continuation of the same under appropriate treatment is an indication for the termination of pregnancy.

The subjective symptoms of the pregnant woman are worthy of our closest investigation. A persistent headache, various forms of neuralgia, a more or less constant pain in the back, mental torpor, epigastric disturbance, edema of the face or extremities and disturbances of vision all demand early and constant attention.

The routine taking of blood-pressure in pregnancy is almost as important as the examination of urine and will sometimes give us hints of the true condition before the trouble is revealed in the urine. The normal systolic blood-pressure in non-pregnant women has been found by Judd⁸ to vary from 110 to 120 mm. mercury. In normal pregnancy he was unable to show an increase of blood-pressure with the advance of pregnancy. Accompanying

7. Brown: Am. Jour. Obst., lxx, 980.

8. Judd: Am. Jour. Obst., lxx, 429.

the physiologic depression of pernicious vomiting, there is a low blood-pressure, but in the toxic state leading to eclampsia the blood-pressure gradually rises and may reach the height of 300 mm. during an eclamptic seizure. In routine examinations an increase of blood-pressure to 140 mm. or 150 mm. generally demands active treatment.

Attention to the hygiene, careful regulation of the diet and a thorough cleansing of the intestinal tract will change many preeclamptic to normal conditions. In threatened or active eclampsia milk is the best food and should form the diet until marked improvement is noted.

A threatened or active eclampsia demands the most rapid elimination of toxins. Croton oil or some other brisk and thorough cathartic should be administered and hot packs with the drinking of a large amount of water will eliminate a large amount of poison through the skin.

Venesection often affords great benefit. By the careful use of morphin and chloral I feel that I have secured good results, notwithstanding the criticisms made with regard to the use of these drugs. I have had no experience with veratrum viride. There has been a growing tendency toward the more conservative line of treatment for eclampsia. The convulsions are regarded as the effect of the toxic condition on the central nervous system, and of themselves do not constitute sufficient cause for the rapid emptying of the uterus. It is hard for one who has been accustomed to regard the convulsions as a serious symptom demanding active interference to reconcile himself to the more recent theory of delay after the convulsions have begun. In eclampsia the uterus may be emptied by one of several methods. By rupture of the membranes; the use of bags; manual dilatation of the cervix; vaginal cesarean section, or by the rapid delivery of the child by version or by the use of forceps.

Serum Treatment of Cancer.—Twenty-seven cases of carcinoma and sarcoma treated by injections of ascitic fluid from a cancerous patient (whose case is also given) were reported by E. J. Ill and W. D. Miningham, Newark, N. J. (*Journal A. M. A.*, August 17). The fluid used was the same kind as that employed by Dr. Hodenpyl, though they were not aware of the fact when they began their treatments. The fluid was drawn under the most careful aseptic conditions into sterilized bottles which were kept in a refrigerator, and all injections were given by siphoning the fluid directly from the container through a sterile rubber tube to the lower end of which a needle was attached. No cures were obtained, but the improvement in subjective symptoms was very marked in most cases and the last reports of some patients were that this improvement still continued. In one case where there was glycosuria it discontinued during the time of injection but reappeared on discontinuance. Only one of the patients knew the character of his

disease while being treated. The authors think that their experience, while unsatisfactory as regards cure, is of sufficient interest to deserve publication. The article is illustrated.

If 1 ounce of essential oil of orange and 3 ounces of water are placed in the hot water bottle of Gwathmey's three bottle vapor anesthesia apparatus and ether in the other two bottles, not only is the odor of the anesthetic completely disguised, so that the patient is unable to tell when its administration begins, but other important results are obtained; the patient passes into surgical unconsciousness without any preliminary stage of excitement, anesthesia is easily maintained with less than half the quantity of ether required by the usual cone method, and the patient quickly and comfortably regains consciousness without vomiting or even nausea, except in very rare instances.—*New York Medical Journal*, Sept. 14, 1912.

THE SURGICAL TONSIL, WITH A DISCUSSION OF THE INDICATIONS AND TECHNIC REQUIRED FOR ENUCLEATION*

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The treatment of the various forms of pathologic tonsils should be selected after a careful investigation into the actual amount and variety of disease manifested by the given tonsil. It is therefore important to decide by personal observation, and a careful history of the objective and subjective symptoms developed.

The one popular method of procedure established and practiced by the leading laryngologists of the present time, in this country, is the revival of the ancient method of Celsus, viz., the complete enucleation of the tonsil. The furore that has swept over the new world demanding a tonsillectomy, if a remnant of tonsil tissue remains, has reached its zenith, so that methods of compromise will resume a place of recognition at least.

Complete enucleation is demanded in tonsillar tuberculosis, in tonsillar rheumatism, in cervical adenitis of definite tonsillar origin, and after suppurative tonsillitis or quinzy. It is a well recognized fact that scarlet fever, influenza, quinzy and tonsillitis are often direct etiologic factors in the development of the various types of Graves' disease. The inter-relation of the physiology of the tonsil and ductless glands is well known, but not scientifically elaborated. It is true that the complete removal of the tonsils is often attended by a subsequent diminution in hypertrophy of the thyroid gland.

Cases of chronic inflammation of the faucial tonsils without much enlargement occurring in adults and possessing a few pathologic crypts can often be successfully relieved by simple methods. The offending crypt should be enlarged with a suitable tonsil knife and curetted. It may be washed with peroxid of hydrogen or 1-3,000 mercuric chlorid solution by means of a small curve-pointed syringe. Fused nitrate of silver on a small probe may be passed into the crypt once or twice a week. In the fibrous variety, local applications prove of little service. In some cases the galvano-cautery will be useful when the tonsil is boggy and hyperemic with several pathologic crypts containing foul secretion or food particles. In these cases a fine pointed electrode passed at a red heat into the offending crypts will relieve the cough or other annoying symptoms by means of the resulting irritation of the burning rather than a complete destruction of tissue.

The selection of treatment is a matter for careful deliberation. All slightly hypertrophied or pathologic tonsils do not necessarily require tonsillectomy as advocated by some of our radical surgeons. It is possible and probable that the tonsil manufactures an internal secretion of some value, in early infancy at least.

The older methods, however, for reduction of enlarged tonsils such as ignipuncture, electrolysis, the galvano-cautery knife and the applications of escharotics such as

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chromic acid, tri-chloroacetic acid, London or Vienna paste have gone into just retirement. When operation is indicated and impossible on account of great danger from hemorrhage or anesthesia or systemic disease, these methods may be considered.

A large number of astringents and solutions containing iodine have been recommended from time to time as efficient in the reduction of enlarged tonsils. The use of these medicaments has proven so unsatisfactory that valuable time should not be wasted in resorting to surgical relief for the diseased tonsil. Then tonsillotomy or tonsillectomy must be performed. The former should be the method of choice when tonsils are simply hypertrophied and not otherwise diseased and when the services of a competent laryngologist cannot be obtained. The complete enucleation of the tonsil is not an operation to be undertaken without deliberation. It involves the most important problems of anesthesia, hemorrhage and technic. It is best performed in a hospital. Adults who are not nervous and excitable may be operated on with local anesthetics — menthol, cocaine, and ac. carbolic equal parts may be applied and urea and quinin hydrochlorid, 1 per cent., injected in drops along the anterior and posterior pillars; or cocaine 1 per cent. with adrenalin chlorid 1-10,000 may be chosen. Children and nervous women are more successfully operated under a general anesthetic as a rule. Ether is recognized as the chief of the list of anesthetics chosen for this operation. Chloroform is contra-indicated.

Hemorrhage at the time of operation should be controlled by artery forceps and ligature. Postoperative bleeding may require the application of adrenalin, alum, the hemostat or a general anesthetic and ligature.

In the last decade our literature has been flooded with articles on the subject

of tonsils. Various instruments have been showered on the market, until the progressive laryngologist has found his offices filled with many useless ones. The question of technic must be settled by each individual operator for himself. The choice of anesthetic has been so thoroughly determined by custom and safety that the surgeon is not willing to depart from the administration of this choice — namely, ether.

The choice of a position is determined by training of the operator. In the New England States, the sitting posture with the head erect is selected. Under the teaching of Todd in Minnesota, the head is allowed to drop well back while the patient lies on the table. Those of us in the middle west prefer the reversed Sims position with the head on the side and inclined downward to allow the secretions to drain from the side of the mouth. In this position the lower tonsil is removed and a clear field remains for the enucleation of the upper tonsil. Some operators prefer to turn the patient to the opposite side for the removal of the second tonsil. The operation is facilitated by the use of a conducting tube apparatus, such as the Phil. A. Browne leading the vapor to the side of the mouth during etherization.

Four methods of technic are popular in this country. The finger enucleation: Sharp dissection with knives or scissors; blunt dissection with spuds, elevators and the snare; the Sluder tonsillotome with or without the snare attachment. Personally, I feel that none of these methods as classified appeal to the average laryngologist as suitable for all cases. Speed, dexterity and minimum of hemorrhage will result from a proper choice of instruments for the proper case.

If I were asked to throw about a hundred tonsil instruments in the ash barrel (where many of them belong) and retain

four in my possession, I would readily claim a Freer pillar knife, a Todd three-prong retractor, a Jackson tonsil artery forceps and a so-called Peters snare. The privilege of using a gloved index finger is of course retained for emergency and dissection as the condition demands. With this equipment tonsils may be successfully enucleated without injury to the pillars or soft palate.

The surgical tonsil may be defined as one which is so thoroughly diseased that surgery alone can remedy the condition. This question must be determined on the basis of pathology, and the amount of trouble arising therefrom. Tonsils *not* in this class should be allowed to remain unless we wish to bring this operation into disrepute.

The general practitioner with surgical inclination who enjoys this field of endeavor may readily master the difficulties of tonsillectomy. If the indications for a complete and thorough operation are present none other should be attempted. The peculiarities of the patient and the personal equation of the surgeon necessitate a wide difference in the choice of method.

DISCUSSION

DR. OTTO T. FREER, Chicago: My experience has not shown me that complete removal of the tonsil deprives the patient of anything needed by his organism, while I have found it better to leave the tonsil intact rather than to partially excise it, for the cut-off outlets of the follicles and of the supratonsillar fossa remaining in the portion left in the throat become strictured by the process of cicatrization so that decomposed secretions dam up in them and lead, as I have often observed, to recurrent peritonsillar abscesses in patients who have never had one.

Now as to methods of tonsillectomy. As stated in my description of my way of excising the tonsil in an article in the *Journal of the American Medical Association*, Vol. 52, page 547, 1909, the prevalent methods of both complete and incomplete removal of the tonsil are dictated by a surgical timidity which, by tear-

ing out tonsils which should be cut out, more or less injures the throat and, in trying to avoid the lesser evil of hemorrhage, incurs the greater ones of sepsis and mutilation. I refer to the popular procedures of finger enucleation, the use of blunt separators with the wire snare and of crushing of the tonsil from its bed with a dull tonsillotome blade driven by an ecraseur screw. The evil which attaches to such blunt and necessarily forcible surgery, as elsewhere in the body, is excessive inflammatory reaction, the spread of septic material and injury to the delicate muscular structures of the palate.

There are many in the specialties who have had no general surgical training and hence permit an excessive dread of bleeding to cause them to resort to forcible evulsion where clean cutting gives much better results. What surgeon, for instance, would tear out a bubo or try to snare it from its bed? He would expect to spread infection and cause violent inflammation, and so would use his knife in preference. Many tonsils are analogous to a bubo and are not only septic themselves, but are also seated in peritonsillar tissue which is in a condition of chronic septic inflammation, easily aroused by forcible manipulation into acuteness. Hence varying degrees of inflammatory reaction and even gangrenous conditions often occur after these blunt operations, for the throat and mouth have a well known liability to gangrene. Dr. Dean of Iowa City collected the histories of numerous cases of sepsis after tonsillectomy, which, as I know, is nearly always performed at least partially by blunt dissection. I have seen two deaths in the practice of others following the wire snare operation with blunt dissection. In one of these the whole right side of the fauces became a pultaceous mass of gangrenous sloughs; ulcerative endocarditis and pyemia followed. In contradistinction to these septic results there is scarcely any reaction after knife excision, there is no sepsis, not even fever and I have never seen hemorrhage that alarmed me, although I have practiced knife excision now for ten years. In addition to sepsis the blunt methods often tear away portions of the palate muscles and the wire frequently cuts off parts of the palate.

Those who have seen the clean cut cavity left after knife tonsillectomy, often a mere slit, will not return to the snare, not to speak of finger "enucleation." The perfect sparing of the palate with preservation of even the plica triangularis to line the tonsillar fossa, and so

keep the palate muscles from being cicatricially bound, is one of the chief merits of knife work.

In addition to tearing out the tonsil, the tonsillotome in its earlier and latest form is now used by many to take the place of the surgical skill which a mechanical appliance, necessarily fitted only to a few of the many varieties of tonsils, cannot supplant.

The advocates of the blunt method and the newer tonsillotome often show collections of completely removed tonsils to support their views. What I want to see is not the tonsils, but the throats from which they came. They are not always presentable.

My reason for this earnest advocacy of knife tonsillectomy is, that in spite of its being the only way to remove tonsils with the least injury and the best results, it is not appreciated. It is often stated concerning surgical methods that a number of them are equally good for accomplishing the same end and that the operator can choose the one which suits him best. As I have found the matter, there are many ways to imperfectly do an operation, but only one way to do it rightly, just as the shortest distance between two points is a straight line.

GENERAL FEDERATION OF WOMEN'S CLUBS ON PUBLIC HEALTH

One of the most important topics discussed at the eleventh biennial convention of the General Federation of Women's Clubs, held in San Francisco in July, was the improvement of public health conditions. This great body of cultured, intelligent and enthusiastic women wields an enormous influence, and is capable of securing far-reaching reforms. It has always stood squarely for sanitary progress. At the tenth biennial meeting, held in Cincinnati in 1910, resolutions endorsing the Owen bill were adopted, since which time the General Federation of Women's Clubs has been one of the strongest and most influential advocates of this measure. At the San Francisco meeting the endorsement of a national department of health was reaffirmed. Several other important resolutions on health matters were also adopted. The following resolutions were adopted at the San Francisco meeting:

WHEREAS, The General Federation of Women's Clubs, through the health department, has done an excellent work in educating the women of America to the great need concerning human life; be it therefore

Resolved, That we reaffirm our previous declaration advocating the union and strengthening of the various governmental agencies relating to pure food, quarantine, vital statistics and human health. Thus united and administered, without partiality to or discrimination against any school of medicine or system of healing, they would constitute a single health service not subordinated to any commercial or financial interests, but devoted exclusively to the conservation of human life and efficiency; and be it further

Resolved, That this health service should cooperate with the health agencies of our vari-

ous states and cities, without interference with their prerogatives or with the freedom of individuals to employ such medical or hygienic aid as they may see fit.

WHEREAS, Accurate registration of births and deaths is the essential basis for intelligent efforts to conserve infant life, to secure the education of all children and to protect their working life and legal rights; therefore be it

Resolved, That the General Federation of Women's Clubs requests the Children's Bureau to prepare in brief form for popular distribution such material as may be available concerning the present degree of registration of births and deaths in this country and the best methods of securing complete returns.

WHEREAS, England, Germany, France, Sweden and nearly all the enlightened nations of the world have proved that medical inspection of schools for the avoidance of contagion and the correction of physical defects; that outdoor schools for the physically weak, and that the employment of competent school nurses have proved useful in lessening truancy, decreasing absence from sickness and alleviating suffering; therefore be it

Resolved, That we recommend to the Federated Clubs the necessity for carrying forward such plans as shall relieve physical defects and educate the young for stronger bodies and more wholesome living.

WHEREAS, Innocent women and children of our land are the greatest sufferers from venereal diseases in the marriage relation; be it therefore

Resolved, That the General Federation of Women's Clubs puts itself on record as believing in properly endorsed certificates of health or of freedom from venereal disease, for all applicants for marriage licenses; and be it further

Resolved, That this same body urge the respective states to pass a law similar to that of Indiana, which requires such a certificate.

Adopted.—*Jour. A. M. A.*, Aug. 31, 1912.

PITUITARY EXTRACT IN OBSTETRICS AND GYNECOLOGY*

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The significance of uterine inertia as a complication of labor is so universally recognized that it seems unnecessary that we should more than casually refer to it at this time. Disturbances and discomforts connected with a protracted labor, exhaustion, increased danger of infection and psychic depression of the mother, the possibility of asphyxiation for the child, and finally for the busy physician the considerable amount of time required, are all matters of no little consequence. The natural result of these factors is that a slowly progressing labor is frequently terminated by instrumental procedures in the absence of sufficient indications.

Frankl-Hochwart and Fröhlich,¹ of the Pharmacological Institute of the University of Vienna, have been given the credit for directing attention to the action of pituitary extract on the uterus. As a matter of fact, Dale² had previously called attention to this action of the hypophysis. Dale observed a very marked contraction of the uterus in the cat following the intravenous injection of .4 of a gram of dry ox pituitary. That his observation did not attract general attention was undoubtedly due to its having been dealt with in an incidental manner, in the course of a long paper on the "Physiolo-

gical Action of Ergot." In 1909 Frankl-Hochwart and Fröhlich, in a series of experiments on normal, gravid and lactating rabbits, found that the uterus after small doses of pituitary extract (0.3 to 0.5 c.c.) was subjected to powerful and often long enduring contractions, and that the sympathetic nerve supply became more sensitive to faradic stimulation. The action of the pituitary extract was very much more striking in the case of a gravid uterus, or in the uterus of a lactating animal. Furthermore, it was observed that intravenous injections into dogs of small amounts of hypophysis extract increased the sensitiveness of the bladder nerves and suggested that the extract should prove of clinical value in atonic conditions of the bladder as well as in those of the uterus.

To Bell³ belongs the credit for having first employed pituitary extract for obstetrical purposes. Experiments conducted by him confirmed the results of Frankl-Hochwart and Fröhlich regarding the action of pituitary extract on the uterine muscle of pregnant rabbits. Bell then employed the hypophysis extract in cases of normal labor, uterine inertia, subinvolution of the uterus and postpartum hemorrhage, with uniformly satisfactory results, and concluded, that "in the future we shall rely on the infundibular extract to produce contractions of the uterus in many serious obstetrical complications and difficulties."

Shortly after the publication of Fröhlich and Frankl-Hochwart's works, Hof-

* Read at the Forty-Seventh Annual Meeting of the Michigan State Medical Society, Muskegon, July 10-11, 1912.

* From the Research Laboratory of Parke, Davis & Co., Detroit.

1. Frankl-Hochwart and Fröhlich: Arch. Pathol. and Pharmacol., 1910, Bd. 63, p. 347.

2. Dale: Jour. Physiol., May, 1907.

3. Bell, W. B.: Brit. Med. Jour., Dec. 4, 1909, p. 1609.

bauer⁴ employed the pituitary extract in the treatment of six cases of uterine insufficiency. The results obtained were very striking, marked contraction of the uterine muscle being produced, which was regular and rhythmical in character. Later work confirmed this earlier observation. In the following classes of cases, the administration of infundibular extract was followed by prompt and satisfactory results:

1. Primary and secondary labor pains.
2. Slightly contracted pelvis.
3. Cases where it is desired to accelerate labor in febrile conditions and threatened eclampsia.
4. Placenta prævia lateralis after rupture of the membranes.
5. Breech presentations.
6. Indications for rapid completion of labor.

Infundibular extract also had an apparently good effect in atonic conditions of the uterus, checking postpartum bleeding. Pituitary extract alone did not produce an abortion, but used in conjunction with instrumental procedures it hastened the evacuation. He believes it, therefore, to be of value in the puerperal period. No undesirable effects in either mother or child were observed.

Studený⁵ used pituitary extract in eighty-nine labor cases. In the first stage of labor the effect was very marked and in the expulsion period, the extract was given with excellent results in thirty-four cases. In fifteen the birth followed during the first quarter of an hour after the injection, and in thirteen during the next hour, and six during the next two hours. On the other hand the extract failed in some cases of abnormal resistance of the soft parts or bony pelvis, and also failed in eight cases of primary uterine inertia.

Pituitary extract was further given in five cases of rigidity of the soft parts in two of which it had little if any effect. The results were strikingly good in six out of nine cases of placenta prævia, but in two cases the pains stopped after a short time, and in a third the pituitary extract had no apparent effect. In one case of induction of labor infundibular extract was used in combination with operative measures and a definite opinion as to its value could not be formed. In the whole series of cases in which labor ended spontaneously, there were only two of postpartum hemorrhage.

In the three cases in which Stern⁶ employed pituitary extract, labor was induced because of complicating pathologic conditions (tuberculosis, eclampsia, etc.). In all cases the extract was effective in producing satisfactory contractions of the uterus.

Bondy,⁷ at the Pharmacological Department of the University of Breslau, employed hypophysis extract in ten cases of protracted labor. In eight of these the results were entirely satisfactory, while one was partially successful and the other a failure. The one failure recorded was a case of an elderly primipara with a breech presentation. The labor lasted fifty-six hours, and after fifty-four hours, the pains having almost ceased, 1 c.c. of pituitary extract was given subcutaneously.

Voight,⁸ in the University Obstetrical Clinic in Berlin, employed infundibular extract in seventy-five cases. In sixty of these (80 per cent.) the results were very good, while in eleven the pains produced were only weak or temporary, and in four the administration of the extract appeared to be detrimental to the course of labor. Among these sixty cases all stages of first

4. Hofbauer: München. med. Wchnschr., March 19, 1912, lix, No. 12.

5. Studený, Alfred: Wien. klin. Wchnschr., Dec. 21, 1911, Jahrgang 24, No. 51, p. 1766.

6. Stern, Robert: Berl. klin. Wchnschr., Aug. 7, 1911, No. 32, p. 1459.

7. Bondy, Oscar: Berl. klin. Wchnschr., Aug. 7, 1911, No. 32.

8. Voight: Deutsch. med. Wchnschr., Dec. 7, 1911, Jahrgang 37, No. 49, p. 2286.

and second periods of labor were encountered. The partial failure of the extract in eleven cases was thought to be largely due to the use of too small doses in the earlier cases.

Hahl⁹ employed hypophysis extract in the Obstetrical Clinic at the University of Helsingfors. The drug was administered subcutaneously to thirty-four patients, and the course of labor in each case before and after injection carefully recorded. Twice cesarean section was performed with the aid of pituitary extract, which, in one case, was injected directly into the wall of the uterus. In twenty-two cases the drug increased the pains and hastened labor to a marked degree, in six others it had a similar though a somewhat less powerful action, and in two it had no effect whatever. The characteristic action of the pituitrin was a shortening and strengthening of the pains, shortening of the interval between contractions and marked increase of intra-uterine pressure.

Hamm,¹⁰ at a meeting of the Unterel-sassischer Aertzverein, Strasburg, reported concerning the use of pituitary extract in twenty-five cases, some of which were primary and some secondary uterine inertia. In only one case did it fail entirely, in the remaining twenty-four it was successful. The drug was found to be a valuable adjunct in cesarean section and in miscarriages, but valueless in the production of premature birth.

Richter,¹¹ in the Obstetrical Clinic of the University of Vienna, used hypophysis extract in the dilatation period in eighteen primiparæ and eleven multiparæ. In sixteen of the eighteen primiparæ, the cervical canal was obliterated and the os uteri large enough for three or four fing-

ers, while in two cases the patients were still at the beginning of the dilatation period. The effect of the pituitary extract appeared within five to ten minutes, during which time powerful labor pains set in with regular intervals. The birth followed according to the strength of the pains and the condition of the soft parts, in from two to six hours after the injection. In no case was any injury to the child observed, and no disturbance occurred during the third stage of labor. Only one case was observed of tetanic-like contraction of the uterus. This lasted ten minutes, whereon the intervals became longer and a regular activity of the labor pains set in.

In the multiparæ, the extract was injected in six cases at the end of the dilatation period, because of marked weakness of the labor pains, in all cases with good results. In the expulsion period, the hypophysis extract was used in sixteen cases, nine of which were primiparæ and seven multiparæ. In all cases the effect appeared after five to ten minutes. In multiparæ the birth occurred in all cases within a half hour.

The hypophysis extract was also used in three cases in which it was necessary to introduce artificial abortion because of advanced pulmonary tuberculosis, and twice in cases in which abortion had already begun. In no case could abortion be produced with the extract, even when repeated injections were given. In post-partum hemorrhages and hemorrhages in childbirth, pituitary extract was used with good results.

Hirsch,¹² from the School for Midwives at Strassburg, employed infundibular extract in three cases preceding cesarean section, in thirteen cases of premature birth, and in nineteen cases to stimulate labor pains. It was found that the action of

9. Hahl, C.: Brit. Med. Jour., Dec. 16, 1911, p. 91.

10. Hamm: Deutsch. med. Wehnschr., March 7, 1912, xxxviii, No. 10, p. 487.

11. Richter, I.: Wien. klin. Wehnschr., 1912, No. 13, p. 480.

12. Hirsch, E.: München. med. Wehnschr., April 30, 1912, Jahrgang 59, No. 18, p. 984.

pituitary extract was greater the closer it was administered to the expulsion period. In the great majority of cases, unless there was momentary danger to either the mother or child, it was possible to entirely avoid the use of forceps. It was impossible to produce any labor pains in a uterus which was in a state of repose, even at the reckoned end of pregnancy and when repeated injections of the extract were administered. In such cases, however, it was possible to arouse the activity by mechanical means and to bring about the delivery much more rapidly by strengthening the contractions with the extract.

In a recent communication, Benthin¹³ reported favorably on the use of hypophysis extract as a labor exciting means and stated that it is an important safe differential diagnostic point between true and false labor pains. If the pains present are true labor pains, the administration of the pituitary extract will greatly strengthen the contractions, whereas in false pains no effect is produced.

In September, 1911, Hofstatter¹⁴ stated that by the administration of pituitary extract, postpartum and postoperative atony of the bladder can be successfully treated and the necessity for catheterization avoided. In this connection it will be recalled that Frankl-Hochwart and Fröhlich had already shown by animal experiments that pituitary extract stimulates the muscle tissue of the bladder and increases the faradic irritability of the bladder nerves. Hofstatter found that in cases of atony of the bladder, the injection of hypophysis extract was almost always followed by spontaneous urination. He next injected 1 to 2 c.c. of the extract in all postoperative cases in which the patient suffered from inability to urinate, the

bladder being full. In more than three-quarters of the cases, the patients became able to pass urine. The difficulty in urination did not return when it had been overcome as a result of pituitary extract. The treatment was not successful in cases of severe injury of the bladder.

Fellenberg¹⁵ confirmed Hofstatter's work and found that "the action on the bladder was exquisite and the injection of the extract in postpuerperal urinary retention was followed by a prompt emptying of the bladder."

Numerous other reports have appeared in the literature regarding the use of pituitary extract in obstetrical practice, among which may be mentioned those of Nagy,¹⁶ Gusew,¹⁷ Besserer,¹⁸ Jaeger,¹⁹ Parisot and Spire,²⁰ Fries,²¹ Vogt,²² Schaefer,²³ Schirmer²⁴ and Hager.²⁵ Other publications in the Hungarian, Danish and Spanish literature we have not been able to secure.

Our clinical experience with the pituitary extract has been by no means extensive, but through the cooperation of a few practitioners in Detroit, we have been able to try out the extract in a number of cases. Our results conform with those already reported, indicating that the hypophysis extract is a very valuable agent in the treatment of uterine inertia and that administered in the first and second stages of labor, it greatly strengthens the uterine contractions. According to our

15. v. Fellenberg, R.: *Wien. klin. Wehnschr.*, March 7, 1912, xxv, No. 10, p. 390; *Korrespondenzblatt f. Schweizer Artze*, 1911, Jahrgang 41, No. 35.

16. Nagy, T.: *Centralbl. f. Gynäkol.*, 1912, No. 10.

17. Gusew: *Russk. Wratsch.*, No. 52.

18. Besserer: *Medizinische Klinik*, April 16, 1912, Jahrgang 8, No. 16, p. 670.

19. Jaeger: *München. med. Wehnschr.*, No. 6.

20. Parisot, J., and Spire, A.: *Med. Rec.*, April 7, 1912, p. 671.

21. Fries: *München. med. Wehnschr.*, 1911, lviii, 2438.

22. Vogt: *München. med. Wehnschr.*, 1911, lviii, 2734.

23. Schaefer: *München. med. Wehnschr.*, 1912, lix, 75.

24. Schirmer, Gustav: *Med. Fortnightly*, March 25, 1912.

25. Hager: *Berl. klin. Wehnschr.*, April 15, 1912, No. 16, p. 762.

13. Benthin, W.: *Deutsch. med. Wehnschr.*, April 25, 1912, xxxviii, No. 17, p. 823; *München. med. Wehnschr.*, Jahrgang 59, No. 18, p. 994.

14. Hofstatter, R.: *Wien. klin. Wehnschr.*, 1911, No. 49.

observations, the contractions are rhythmical in character and in none of our cases was a tetanic contraction of the uterus produced.

We wish to include the two following case reports as typical examples of the class of cases in which the pituitary extract is indicated. That we have the privilege of reporting these cases is due to the courtesy of Dr. E. J. O'Brien of Detroit, in whose practice they occurred:

CASE 1.—Mrs. F. Patient first came under observation May 18, 1912. Gave a history of membranes having ruptured three days previously, and having had pains at irregular intervals since. Examination showed cervix to be dilated sufficiently to admit three fingers and L. O. A. presentation was diagnosed. Fetal heart sounds were readily distinguishable. At the time the patient came under my attention the pains were very weak and labor was at a standstill. A second examination the following morning showed no change in the patient's condition and at noon she was sent to Grace Hospital. During the morning the patient had no pains whatever. At 12 o'clock a subcutaneous injection of 1 c.c. of pituitrin was given. Between 12 and 12:30 the patient had eight very severe pains with some progress in labor, but after the first half hour the pains became less marked. A second injection of 1 c.c. was given at 4:00 p. m., and shortly after its administration strong contractions set in. Between 4 and 5 p. m., when the child was born, twelve strong pains occurred. The delivery, both of the child and the placenta, was accomplished without any difficulty. The uterus contracted firmly and there was practically no post-partum bleeding. No untoward effects of any kind in either the mother or the child were observed, the patient leaving the hospital two weeks later.

CASE 2.—Mrs. C. Called to see the patient at 8 a. m. Patient was a multipara, both previous children having been born at 7 months. The one child who survived was undersized. Patient gave history of having menstruated during entire pregnancy, and did not know exactly how far pregnancy had progressed. She had had intermittent pains for several days. Examination showed cervix to be sufficiently dilated to admit three fingers. Membranes were not ruptured, but patient was passing considerable

blood. L. O. A. presentation was diagnosed. At 3 o'clock in the afternoon no progress in labor had been accomplished. Pains were becoming feeble and the patient was very tired. One c.c. of pituitrin was administered subcutaneously into the left arm. A very few minutes after the injection the pains became exceedingly severe, patient complained bitterly and stated that pains were almost continual. Progress began within a few minutes after the administration of the pituitrin. The child was born thirty minutes after the injection, full term and perfectly normal. Placenta was removed without difficulty, and no post-partum hemorrhage occurred. Uterus contracted firmly and remained so.

Our laboratory experiments have been directed toward the determination of the following facts:

1. The character of the contractions induced by the administration of the pituitary extract.
- 2: The possibility of inducing abortion by the administration of large doses.
3. The toxicity of pituitary extract.
4. The significance of the glycosuria following the administration of large doses of hypophysis extract in animal experiments which has been reported by Cushing and others.

In studying the character of the uterine contraction produced by the infundibular extract, we have used normal, lactating and pregnant dogs. The dogs were anesthetized with chlorotone and attached to the kymograph in usual way, blood-pressure record being taken as well as that of the uterine contractions. The longitudinal contractions were recorded by the use of myocardiograph, the needles of the myocardiograph being attached to one horn of the uterus. The volume changes were recorded by enclosing in the opposite horn a small rubber sack which connected by glass and rubber tubing to a tambour from which the changes were recorded on the drum of kymograph.

Figure 1 shows a tracing from the normal uterus. In this case only the longitudinal contractions were recorded. *A-A'* is the uterine tracing, *B-B'* the blood-pressure and *C-C'* time marker. It will be observed that while the pituitary extract increased the activity of the uterine mus-

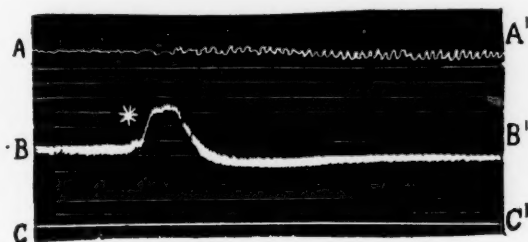


Fig. 1.—*Intravenous injection 0.5 c.c. pituitrin.

cle, the contractions were not especially marked. A slight increase in the uterine tone is observed.

With lactating animals the effects were very much more marked, decided stimulation of uterine contractions and increase in uterine tone being observed. The susceptibility of the uterus to pituitrin stimulation decreased as the period of lactation advanced.

With dogs placed on the table a few hours after the delivery of their puppies the uterine sensitiveness to pituitrin stimulation is very decided. Figure 2 shows a tracing taken in the morning from a bitch which had dropped her puppies some time during the night. In this case both longitudinal contractions and volume changes were recorded. *A-A'* shows longitudinal contractions, *B-B'* volume changes, *C-C'* blood-pressure and *D-D'* time marker. The down stroke on the upper tracing indicates the longitudinal contraction, while the up stroke on the second curve shows decrease in volume. Tracings were taken immediately after the injection, twenty minutes later and an hour later. The curve shown in Figure 2 was the tracing taken an hour after injection. The normal curve

(i. e., the tracing taken previous to the injection) showed almost a straight line. In less than a minute after the injection contractions set in, which were rather "stormy" in character. Within a few minutes, however, they became rhythmical and remained so throughout the experiment as shown by the above tracing. At the time the dog was killed (two hours after the injection) contractions were still regular and forcible.

The results of our experiments point to the fact that as pregnancy advances, there is a progressively increasing susceptibility of the uterus to pituitary stimulation. In other words, the closer the animal is to term, the more marked are the contractions produced by the administration of the extract. The experiment represented in Figures 3, 4, 5 and 6 is interesting in this connection.

These tracings were taken from a dog in whom the onset of labor seemed imminent. In all four *A-A'* represents tracing

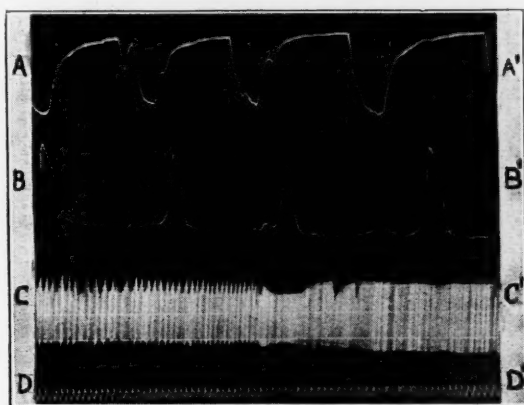


Figure 2

from uterus, *B-B'* the blood-pressure and *C-C'* time marker. Blood clotted in the cannula during the experiment so that it was impossible to get a picture of the blood-pressure in the last two tracings.

It is observed that there is a considerable oscillation in the uterine tracing previous to injection. This was not, as it

might appear, due to activity of the uterus, but simply a result of the respiratory movements. The contraction following the injection was very striking and the relaxation from this primary contraction delayed.

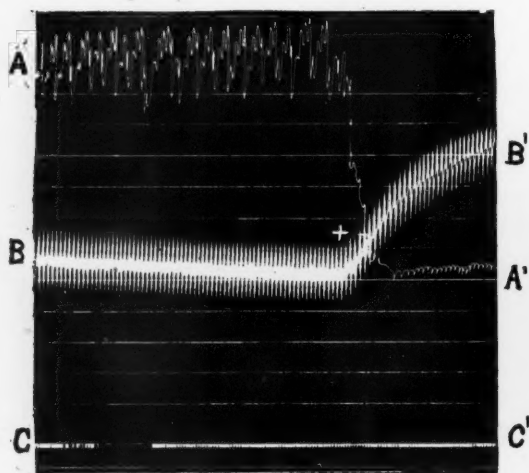


Fig. 3.—*Intravenous injection of 0.5 c.c. pituitrin.

Figure 4 shows the relaxation from the first contraction and the initiation of the characteristic rhythmic "pains."

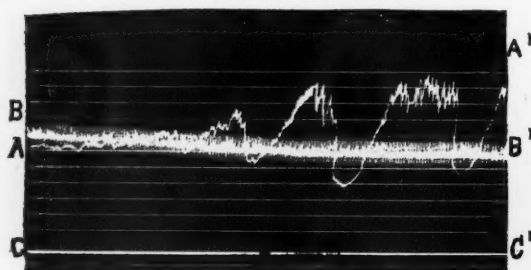


Figure 4

Figure 5 shows the contractions thirty minutes, and Figure 6 one and one-half hours after the injection.

In all of these tracings the down stroke is the contraction, and the up stroke the relaxation. It will be observed that the contraction is very sharp and the interval between relatively short. The similarity between the contractions produced by the pituitrin and normal labor pains is so striking that the decisive action of the drug in obstetrical practice is readily explained.

In all of the above experiments the dose of pituitrin administered was 0.5 c.c. intravenously.

Judging from experiments on dogs the toxicity of pituitrin in therapeutic doses can be practically ignored. We have repeatedly given to dogs doses equivalent, according to weight, to 100 c.c. to a human subject, with the production of no untoward effects other than a slight temporary glycosuria. In one instance a bitch, weighing 5 kilograms, was given 25

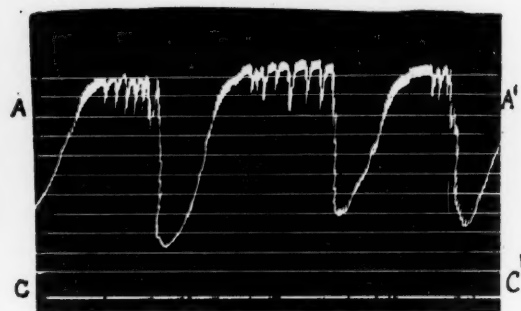


Figure 5

c.c. subcutaneously. This animal was selected from a group of twenty or twenty-five dogs as being the weakest animal of the lot. The dose given (5 c.c. per kilo) is approximately equivalent to 250 c.c. in a human subject weighing 110 pounds.



Figure 6

The animal manifested considerable uneasiness during the afternoon following the injection and some urinary and fecal activity. The nervous symptoms are probably to be ascribed to the increase in blood-pressure as we have observed the same condition following large doses of adrenalin, while the urinary and fecal activity are to be explained by the action

of the extract on the muscular tissue of the bladder and alimentary canal. A mild glycosuria was produced which persisted for about three weeks. The dog's condition after the first day or two was approximately normal and no permanent injurious effects were observed. We still have the dog and she is apparently in the best of health.

Regarding the possibility of inducing labor, we have given doses as high as 1 c.c. per kilo to pregnant animals near term without effect.

In studying the glycosuria we have used a metabolism cage constructed so that the entire twenty-four-hours' urine could be easily collected.

An interesting fact which we have observed and which we do not recall having seen reported is the delay in the appearance of the glycosuria. Often it does not become manifest for several days, and following enormous doses of pituitary extract it may persist for two or three weeks. It invariably clears up within a few weeks. The amount of pituitary extract which is required to cause glycosuria is relatively large and our experiments would indicate that it would never be produced by therapeutic doses. The following tables showing some of the above facts may be of interest in this connection:

TABLE 1.—DOG 1; WEIGHT 19.5 KG.

Injection	Day	Vol.	S. G.	Sugar	
19.5 c.c. pit.	1	400 c.c.	1035	—	
19.5 c.c. pit.	2	450 c.c.	1035	—	
	3	940 c.c.	1015	—	
19.5 c.c. pit.	5	
10.0 c.c. pit.	6	410 c.c.	1036	+	
	7	1000 c.c.	1010	++	
	8	810 c.c.	1024	++	
	9	600 c.c.	1025	++	
	10	290 c.c.	1020	++	
	12	Died (distemper).			+

TABLE 2.—DOG 2; WEIGHT 5 KG. (A)

Injection	Day	Sugar	Dietetic Acid
25 c.c. pit	1	Trace*	..
	2	Trace	..
	3	Trace	..
	5	+	+
	6	+	—
	7	+	..
	8	+	..
	9	+	..
	10	+	..

* Twenty-five minutes after injection.

TABLE 3.—DOG 2; WEIGHT 5 KG. (B)

Day	S. G.	Sugar
13	1016	Trace
14	1013	Trace
15	1020	Trace
16	1020	Trace
17	1024	Trace
18	1017	Trace
19	1020	Trace
29	?	—

TABLE 4.—DOG 3; WEIGHT 15.5 KG.

Injection	Day	Vol.	S. G.	Sugar
31 c.c. pit.	1	...	1032	..
	2	...	1045	—
	5	500 c.c.	1045	—
	6	410 c.c.	1038	Trace
	8	745 c.c.	1026	+(1.5%)
	9	525 c.c.	1016	+(1%)
	10	700 c.c.	1012	Trace
	11	790 c.c.	1013	Trace
	12	680 c.c.	1014	?
	13	—

TABLE 5.—DOG 4; WEIGHT 14 KG.

(Pregnant)				
Injection	Day	Vol.	S. G.	Sugar
14 c.c. pit.*	1	340 c.c.	1025	—
	2	510 c.c.	1032	+
	3	530 c.c.	1019	Trace
	4	225 c.c.	1035	Trace
	5	500 c.c.	1024	—
	7	Seven puppies.		

* Four injections, 3.5 c.c., three hours apart.

TABLE 6.—DOG 5; WEIGHT 10.5 KG.

(Pregnant)				
Injection	Day	Vol.	S. G.	Sugar
5 c.c. pit.	1	...	1028	—
	2	245 c.c.	1032	—
	3	260 c.c.	1022	?
	4	280 c.c.	1035	—
	5	130 c.c.	1038	Trace
	8	—
	12	Five puppies, all normal.		

From these results we feel justified in concluding that experimental glycosuria which may be produced with pituitary extract is not of any significance as far as the safety of the product is concerned.

We have observed and the observation has been reported by others, that the administration of the extract produces a temporary decrease in the normal flow of the pancreatic juice which is followed by a short increase and then a continued decrease in pancreatic activity. Pituitrin also inhibits the stimulant action of secretion on the activity of the pancreas. Whether or not this action on the pancreas has anything to do with the apparent effect of disturbed sugar metabolism, we are of course unable to state, but we hope that some light may be thrown on it by future experiments.

INDICATIONS FOR ENUCLEATION*

CALVIN R. ELWOOD, M.D.

Menominee, Mich.

At a recent meeting of the American Medical Association, one prominent member of the Section of Ophthalmology stated that he believed many cases of sympathetic ophthalmia were due to infection and injudicious treatment, and that the time would come when the disease would be practically unknown, notwithstanding he advised extreme conservatism in the matter of enucleation, while another of greater experience stated that he advised immediate enucleation of all shattered, sightless eyes. This diversity of opinion among leading ophthalmologists is my excuse for presenting this paper on a subject which has been so often discussed that nothing new remains.

Not long ago I had the misfortune to be unsuccessful in attempting to remove a piece of steel, probably non-magnetic, from an eye with the giant magnet, and took the patient to a consultant of wide experience, who had no better success. I then suggested immediate enucleation at the first sign of inflammatory reaction, but my consultant assured me that would probably not be necessary. In spite of his optimism, however, the eye was enucleated the following week.

These facts are mentioned to demonstrate the great diversity of opinion that prevails concerning the indications for enucleation, and to emphasize the importance of thorough and oft repeated discussion, for the surgeon is seldom called

on to decide a question in which prompt and accurate judgment is more essential.

While all agree that the unnecessary sacrifice of an eye is a catastrophe from which we must be ever on the alert to protect our patients, the surgeon must be equally appreciative of the danger involved in too great conservatism, and the fact that when sympathetic ophthalmia has once developed, comparatively little can be done to check its progress. Therefore, until more is known of the pathology of the disease and some efficient treatment discovered, we must be ever watchful and guard against its development in suspicious cases by the only known efficient prophylaxis—the prompt enucleation of the possibly exciting eye, provided it is blind.

If the ciliary body is seriously injured and the sight nearly destroyed, I shall always enucleate in the future if permitted. With such an eye one cannot tell when sympathetic ophthalmia may develop; besides its subsequent shrinking makes it more unsightly than a well-fitted Snellen, to say nothing of the great risk involved in its retention.

It has been my misfortune to see one patient blinded from sympathetic ophthalmia from such an injury, and have another pass from observation with an atrophic dangerous stump. In the latter case I could have enucleated at the time of injury, had I not erred in my enthusiastic endeavor to preserve an eyeball, although sightless, because of the apparent

* Read at the Forty-Seventh Annual Meeting of the Michigan State Medical Society, Muskegon, July 10-11, 1912.

success in suturing the extensive scleral wound.

Whether the ciliary body is injured extensively or not, an eye totally blind from injury, if at all tender to pressure, with chronic cyclitis and reduced tension, should be removed. The only argument in favor of saving it is the sentimental objection to parting with so conspicuous a portion of one's anatomy, but a well-fitted Snellen after an Allport operation, or one of its modifications, is far preferable from a cosmetic standpoint to the blind, scarred, often chronically inflamed eye.

The possessor himself of such an organ has little appreciation of the discomfort he suffers until after enucleation. Some years ago I removed a blind eye, simply because it was a disfigurement and the other tired somewhat easily. Before leaving the hospital the patient remarked that he had no appreciation of the discomfort he had endured for years. It had been so constant and so gradual in its development that he had established a tolerance, but could now do constant near work with far greater comfort than for years previous. Few now know that he has but one eye, while previous to the operation it was very apparent—a fact of importance to the artisan in these days when the employer is ever on the alert to protect himself against personal injury claims.

The presence in an eye of a foreign body that cannot be removed is in the opinion of many an indication for enucleation, and in this particular I wish to mention the fact that the intelligence and financial condition of the victim of an accident—as well as the availability of skilled attention—should be factors in deciding whether an eye so injured should be removed at once. As a case in point I would mention a homesteader who thawed some dynamite with the usual result. When that dynamite exploded he was filled so

full of fragments of tin can that it was impossible to take him to the hospital. A very clean iridectomy had been done by the attending physician, but the presence of a traumatic cataract and a penetrating wound of the cornea and iris, together with the history, indicated that there was a piece of tin in the eye. The patient was given a test card on which the vision was noted, and he was told that if at any time vision in the remaining eye diminished or the eye tired after use, or if any other symptoms of sympathetic ophthalmia developed, which were mentioned, he should come at once to the hospital for enucleation. Notwithstanding this definite and urgent advice, he was led into the hospital some six months afterwards, was led out again, and has even since been blind. His excuse was sickness in his family and that he had been told by friends that it was not necessary to come as quickly as I had advised.

Another distressing case was that of a child four years old whose blindness was clearly chargeable to ignorance and neglect. Two months before I saw him he had suffered an injury which cut the cornea clear across, but did not involve the ciliary body. He was brought to me because the other eye was irritable and somewhat sensitive to light. Enucleation was persistently refused until too late to be of any service. Enucleation was insisted on in this case simply because the injured eye was hopelessly blind, slight photophobia and lachrymation were present in its fellow, and the child lived under conditions which made proper care impossible.

Any patient with so extensive an injury as to be hopelessly blinded, is far more disfigured than he would be after enucleation and subsequent prothesis. Besides, the possessor of such an organ is never free from danger, there being practically

no limit to the time after injury when the other eye may be involved.

As Allport expresses it, the usefulness of an eye is confined to two purposes, viz.: vision and beauty, and when through accident or disease, both these attributes are lost and the element of danger added, the eye should be removed.

The general impression that an eye lost through panophthalmitis, will not excite sympathetic ophthalmia in its fellow, as suggested by the theory of Leber and Deutschmann, that the panophthalmitic inflammation plugs the lymph channels and thereby prevents germ migration, or of Gifford, that the infiltration of pus corpuscles in the optic nerve lymph spaces prevents bacterial invasion of the sound eye, is only partially true. Zentmayer has found records of fifteen cases of sympathetic ophthalmia following panophthalmitis from a study of which he concludes that while the occurrence is one of extreme rarity, it certainly does occur. It is the mild type of purulent uveitis which may cause trouble, and only after a virulent attack should the shrunken globe be considered safe.

Several factors contribute, according to Zentmayer, to render panophthalmitic eyes innocuous. When the globe perforates after a severe suppurative uveitis, many of the microorganisms are expelled with the pus, and those remaining become inactive through enormous pus formation. This active pyogenesis, by blocking the posterior lymph spaces, serves to prevent the migration of toxic agents.

A study of Dr. Thompson's recent paper on Sympathetic Optic Neuritis and its discussion, must force the conclusion that the only safe treatment of an eye blinded by injury is enucleation. His patient was blinded twenty years before by a blow; never remembered any pain, and never had any treatment. Years after vision in

the other eye was reduced to 20/200 without other symptoms. That his case is by no means unique was demonstrated by the cases reported by Hirschberg, Harlan and Shirmer, who tabulated seventeen cases, quoted by Dr. Thompson.

The former objection to enucleating during panophthalmitis, through fear of the development of a septic meningitis or orbital abscess, is not sustained by clinical records, and a successful enucleation at this time saves the patient so much suffering, that it is to be advised unless especially contra-indicated.

The extreme rarity of sympathetic ophthalmia after enucleation (only one in 1,596 enucleations at Moorsfields) would indicate that it is the safest method of disposing of a dangerous eye, while several cases are reported following evisceration. This may be an argument for the ciliary nerve theory of the etiology of "Migratory Ophthalmia," for de Schweinitz and other careful observers have found microscopic remnants of the ciliary body in the interior of eyes they themselves had carefully eviscerated. After an evisceration the stump, while at first larger and better, gradually shrinks until it is but little if any larger than it would be after a proper enucleation.

I plead guilty of having removed an eye a short time ago, in which there was a little vision and which was not the result of an injury, but for which I make no apology. A miner, over 60 years old, had suffered from trachoma in one eye for years, and as the result of a chronic cyclitis, was in misery much of the time. He had consulted several oculists and had been in different hospitals for in the aggregate about four months in the past three years. The eye had recently been very painful. The most I could hope from six or eight weeks of treatment would have been an eye

with only poor form perception, which on slight provocation would go through the same process as in the past, but after enucleation he has been comfortable, went home in a few days and has the satisfaction of knowing that he will not have a recurrence of his former discomfort.

It must be understood in these distressing cases of severe injury that enucleation

may not be absolute prevention against involvement of the fellow, Stephenson having reported a case occurring fifty-three days after injury and twenty days after the removal of the exciter, still as the extensive Moorsfields reports show, enucleation is a very reliable, and surely our best, protection against the most deplorable of ophthalmic complications.

SURGICAL SUGGESTIONS

American Journal of Surgery

It is extremely desirable to conduct a systematic and cleanly dissection when seeking a foreign body.

A history of discomfort and oppression in the chest and throat after eating, relieved by induced vomiting, suggests cardiospasm.

After a transpleural intrathoracic operation, as on the esophagus or lung, air-tight drainage of the pleural cavity must be provided for.

A felon may frequently be aborted by covering the end of the finger with cotton saturated in alcohol and protected from the air by a rubber finger cot.

The ophthalmoscope, the sigmoidoscope and, of course, the cystoscope belong to the equipment of every thorough surgeon, and their frequent use is an important part of the diagnostic examinations.

When preparing the radial artery for transfusion it is very important to gently dissect out and tie with very fine ligatures the branches of the vessel in the field. If any of these is torn or bruised, a clot will form in it which, by extending into the radial, will interfere with or prevent the flow of blood.

In the removal of small foreign bodies there is a rule to make the incision at an angle to the long axis of the object, and when the latter is quite superficial this hoary advice is good. But when the object is buried more deeply, the incision should be made parallel to the underlying muscle fibers.

Skin sutures must not be closely placed in fat subjects. Provision should be made for the escape of fat droplets.

Paronychia may often be thoroughly drained by gently passing the knife point between the nail fold and the lunula without cutting the true skin. Disinfect with a drop of tincture of iodine, insert a tiny gauze drain and apply a small wet dressing.

If suppuration at the root of the nail does not soon subside after providing drainage, it may be necessary to remove the nail. This should not be done too hastily, however. Persistence in daily disinfection of the space (iodine, hydrogen peroxide, etc.) and stimulation of the tissues (as by massage) will often be rewarded by saving the nail.

The history of a fairly sudden enlargement of a testicle does not necessarily mean an inflammatory or traumatic process. Such an enlargement may be due to spontaneous hemorrhage in a round-cell sarcoma of the organ.

Translucency in a scrotal swelling indicates, of course, the presence of hydrocele fluid. But if the shadow of the testicle within is unduly large the hydrocele is only a complication of some other condition, e. g., neoplasm of the testis.

A testicular enlargement, even though of rapid development, not associated with evident urethritis, not very tender and not following instrumentation, should never be dismissed as due to "a strain." It is in all probability neoplastic, luetic or tuberculous. If the Wassermann reaction is negative, the testicle should be promptly examined by operation!

VACCINE THERAPY IN DISEASES OF THE EYE, EAR, NOSE AND THROAT*

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Saginaw, Mich.

Vaccine and serum therapy marks an era in the progress of scientific medicine. The careful investigations into the functions of the blood and the part played by each constituent of that fluid, in combating disease, has suggested many methods of aiding nature in overcoming infection. Since the dawn of history, it has been known that in many communicable diseases, one attack renders the individual immune to subsequent attacks.

Nature employs several methods in the immunizing process. Metchnikoff found that the phagocytes have power to ingest and digest and thus destroy pathogenic germs. This power is very slight, however, unless the phagocytes are suspended in blood-serum. It has been found, also, that the action of the phagocytes is much greater when suspended in blood taken from an immunized animal than from one not so immunized. This however is true only for the same kind of germs that the animal was immunized with. These facts suggested to Sir A. E. Wright that the blood-serum contains a substance which varies in individuals and also in different diseases. This substance he called "opsonins." He further developed a process of ascertaining the "opsonic index" in any case. In general terms it may be stated that an individual who has an opsonic index above the normal and whose phagocytes are likewise above normal is able to combat an

infectious disease more successfully than if the reverse were true.

Nature's method of overcoming an infection is by the production of certain substances in the blood-serum called bactericidal substances, that destroy the products of the bacteria. There is also formed in the blood certain antitoxins, which combine with and neutralize the toxins.

Further, the opsonins in the blood affect the bacteria so that the phagocytes readily ingest and destroy them. If we are to aid Nature in her work in overcoming an infection we must improve the power of the blood to more readily destroy the infecting bacteria and their products. This can be done by using bacterial vaccines or a prepared serum from an immunized animal. By using vaccines we stimulate the blood to manufacture an extraordinary supply of antibodies, etc., and thus enable the patient to resist the disease, while by using serums the antibodies, etc., are supplied to the patient.

Wright's investigations, which have been confirmed by numerous others, led him to the following conclusions:

1. In case of an infection, Nature increases the opsonic power of the blood and also materially increases the number of the phagocytes.
2. When sterilized pathogenic bacteria in sufficient numbers are injected under the skin, the blood is further stimulated, resulting in more opsonins and an increased phagocytosis.
3. The good effect of a single dose of vaccine lasts from 5 to 10 days, and if the inoculations are repeated a sufficient number of times, at

* Read at the Forty-Seventh Annual Meeting of the Michigan State Medical Society, Muskegon, July 10-11, 1912.

proper intervals, the individual becomes permanently immune.

The United States Government has taken advantage of these facts and now requires all her soldiers to be immunized to typhoid fever. This disease has heretofore been one of the most serious to be contended with in camp life. The result is clearly shown by comparing the results in the army encamped in Florida at Jacksonville in 1898, with the results at San Antonio, Texas, in 1911.

There were approximately the same number of troops, about 12,000, for the same length of time, about four months, at Jacksonville in 1898, and at San Antonio in 1911.

In Jacksonville there were 1,729 certain cases of typhoid and 2,693 more probable cases, with 248 deaths, whereas at San Antonio there were only two cases with no deaths. The soldiers at San Antonio had been rendered immune by three injections each of antityphoid vaccine.

Dr. W. H. Watters, of Boston, reports the result among nurses in the Haynes Memorial Hospital for Contagious Diseases. Referring to the Scarlet Fever Department, he says:

"In short, during 2 years, but one case, and that a very light one, has occurred among a number of nurses, who have received vaccines while among a considerably smaller group, five times as many cases have occurred and those not particularly light."

He describes the method of vaccination as follows:

"About two or three weeks before a given nurse was going to the scarlet fever wards, usually while on diphtheria duty, she was given fifty million of the polyvalent streptococcus vaccine. This was usually followed by some local reaction, soreness of the arm, and occasionally by some general manifestations, such as headache or malaise. In about a week, one hundred millions were given, and a week later, two hundred millions."

A large percentage of the diseases of the eye, ear, nose and throat are of an infectious nature and outside of the syphilitic the germs usually encountered are the various strains of the streptococcus, staphylococcus, pneumococcus and *Micrococcus catarrhalis*. The many sinuses of the nose and ear, and the respiratory function of the nose and throat render these organs peculiarly susceptible to infection.

When an infection is not speedily overcome, the process is liable to continue until surgical interference is demanded. We all know the small percentage of mastoid, antrum, ethmoidal and sphenoidal cases, even if seen early, which are cured without a surgical operation. Any method of treatment that will increase the cures should be regarded with satisfaction.

I shall now give a few illustrative cases treated with bacterial vaccines. In all cases the usual methods of treatment were also given. Where pus was found the parts were kept clean and antiseptic applied. In rheumatic iritis atropine was used, etc., and special symptoms were given attention as they arose.

CASE 1.—R. G., aged 20. rheumatic iritis. This patient continued at his work, which is driving mail wagon from P. O. to train; the attack occurred during cold weather. He refused to quit work. I prescribed the usual remedies both locally and constitutionally. The disease remained about stationary—sometimes apparently a little improved, then the reverse. After several weeks the patient was exposed to a severe snow storm and the eye became much more painful. At this juncture I gave him the first dose of vaccine without much expectation of success. Within 48 hours, the pain subsided and the eye was decidedly improved; four days later another injection was given and the patient made a rapid recovery without losing a day from his occupation.

CASE 2.—Mrs. E., aged 72. Rheumatic iritis, corneal ulcer and severe blepharospasm. Had been treated for many weeks without amelioration of symptoms. She had been afflicted with rheumatism for many years. Her finger joints

were enlarged from this disease. Cocain, novocain, acoin, dionin and other medication would give but temporary relief. The first dose of vaccine gave some improvement and in ten days she became fairly comfortable. The injections were repeated every 5 days for several weeks. Not only were all her symptoms relieved, but the condition of the rheumatic joints was vastly improved.

CASE 3.—D. T., aged 45. Rheumatic iritis. This patient had previously had similar attacks and had been treated by other oculists. It usually required several weeks to overcome an attack. In 1909 he had an attack with the usual course. In 1911 the same conditions prevailed but all symptoms were aborted by one vaccine injection.

In many other cases which I have treated during the last two years, the relief from all painful symptoms within twenty-four hours, where rheumatism was a factor, was little short of marvelous.

CASE 4.—Mrs. B. This patient has been afflicted with frequent attacks of suppurative tonsillitis for many years requiring an incision to evacuate the pus. During the last 2 years whenever symptoms arose, suggesting a return of the disease she has taken a vaccine injection and has escaped the tortures of a developed case.

CASE 5.—H. H., aged 12. This patient was taken with earache following recreation in the manual training swimming pool.

After both ears were suppurating, I was called in consultation with the family physician. At the time the temperature was 103° with much pain in the left ear. The tissues behind the ear were edematous and there was no doubt but that the mastoid was involved. An injection of vaccine was given and within 48 hours the temperature was normal and the pain had subsided, although the swelling behind the ear increased somewhat. Five days after the first injection a second was given. The swelling behind the ear gradually subsided, and the discharge ceased, the patient making a complete recovery without an operation.

CASE 6.—The writer had ethmoidal trouble for several years. Portions of the middle turbinates were removed to give better drainage. Every time a cold was contracted there was a copious muco-purulent discharge lasting several weeks.

For the last two years when there is any symptom of a return of the disease a vaccine injection is taken and repeated in 3 days. Since adopting this method I have seen no clinical indication of a purulent discharge.

When I first began using the vaccine treatment I applied it in cases which did not improve as rapidly as desired. The general result was so satisfactory that I now use it in all cases where there is a probable infection of any germs already specified.

The question often arises whether an autogenous or a stock vaccine gives the better results. My practice is to use a mixed polyvalent stock vaccine and use it early. Only in those cases which do not respond readily do I have the discharge examined under a microscope. I have adopted this plan for the following reasons:

1. In nearly all infections, in diseases of the ear, eye, nose and throat, outside gonorrheal and syphilitic, the germ or germs are included in the various strains of the streptococcus, staphylococcus, pneumococcus and *Micrococcus catarrhalis*.

2. There is absolutely no danger in giving vaccine in local infections.

3. Valuable time is lost if you wait for the manufacture of an autogenous vaccine.

4. No harm results from injecting a vaccine of germs which do not exist in the patient treated.

As to the relative merits of autogenous and stock vaccines, Dr. John Osborn Polak, Professor of Obstetrics and Gynecology in Long Island College Hospital, after three years' use in all infections in his department, says:

"Autogenous vaccines of a single strain have given us unreliable reactions. This, I think, can be explained by the fact that the coccus is attenuated in its strength, and after it has produced its first reaction, the leukocytes become more or less accustomed to the particular variety of coccus, and are less liable to effect

a defense than when a vaccine of polyvalent strain is introduced.

"The mixed vaccines of reliable laboratories have given better results than when a single variety was used. This has been shown repeatedly in the blood picture when an autogenous vaccine of single strain used in large doses, even up to 500,000,000 has failed to increase the leukocyte count or diminish the polynuclear percentage, the mixed vaccines of several strains have promptly produced a marked leukocytosis. Even the colon bacillus infections, such as the infection of pelvic hematocoele by the colon bacillus, have yielded more promptly to mixed vaccines of polyvalent strains than when a single autogenous one has been used."

CONCLUSIONS.

In all inflammatory diseases of the mucous membranes, vaccine therapy will frequently abort the development of the infection.

If given early it will relieve the necessity of an operation in many cases.

It relieves the distress and improves the well-being of the patient when other remedies fail.

Mixed polyvalent vaccines are more efficacious than autogenous ones of a single strain.

Clinical indications enable us to begin this treatment on as good scientific basis as drugs are administered.

There is no danger in administering this treatment in local infection to patients of all ages.

It should not be reserved as a treatment of last resort. It may be given in all stages of a local infection.

It should not be used to the exclusion of other well recognized remedies, but in conjunction with them.

MICHIGAN STATE BOARD OF REGISTRATION IN MEDICINE

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Snyder, Ralph B., Department Medicine and Surgery, University of Michigan...1912	84.85
Stauffacher, Charles J., College of Medicine, University of Illinois.....1912	82.4
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Yeo, Gordon H., Department Medicine and Surgery, University of Michigan...1912	84.6

B. D. HARRISON, Secretary.

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OCTOBER

EDITORIAL

Members sued or threatened should communicate at once with the chairman of the Medico-Legal committee, **SUGGESTING** but not **RETAINING** a local attorney. Power to engage local attorneys rests entirely with our general attorneys. Complications have arisen in several cases, and considerable trouble and unnecessary expense followed, because members have not observed this rule.

ADVANCES IN OBSTETRICS

Relatively few men go beyond what has been taught them. Many never come up to the standard which was prevalent at the time they graduated. With all the progress which has been made in medical matters, it seems that obstetrics has

perhaps enjoyed the least. Of recent years, however, the influence of a dozen of really high grade obstetrical teachers has been felt, and is now being enjoyed by hundreds of women who have been attended by the students of these masters.

The advances in obstetrics have been slower than in surgery, undoubtedly on account of several reasons, not the least of which is that few men with special surgical training are doing this work. The general practitioner is doing most of the obstetrical work and very often he is not trained or skilled in the surgical principles and practice which underlie good obstetrics; therefore, a greater morbidity and mortality is apt to follow.

The improved course in obstetrics which is now given in the better medical schools, especially the increased clinical opportunities which are provided to students, are having a very beneficial effect on the grade of obstetrics now being practiced. In former years a student often graduated with perhaps no more clinical obstetrics than to observe a teacher deliver a patient before the class. In marked contrast to this is the present-day requirement of each student serving a period of time in a lying-in hospital or dispensary where he attends from six to twelve cases or more, and under the supervision of a superior. His technic must in this way be correct, and a few demonstrations like these are worth more than a hundred cases handled in a haphazard manner without supervision.

The application of surgical principles in a more practical manner than formerly has improved the quality of obstetrics. Formerly there was one standard required to remove an appendix and a very much lower one was considered as sufficient to deliver a woman even by means of the most difficult instrumental procedure. With the application of better surgical

principles, the equipment employed in obstetrical cases has been brought up to the standard of major surgery. The time has passed when a man can go to a confinement case with a few instruments, of poor selection and quality—possibly cast-offs from his surgical equipment. He is no longer considered as giving his patient all she deserves unless in addition to good instruments, he has a generous supply of sterile goods similar to those employed in major surgery.

While there is an increasing tendency for women to go to the hospitals for confinement, it will be many years if ever before the hospitals will care for the bulk of this work. If the hospital is conducted on correct lines it can undoubtedly give a superior service, but if the maternity is not kept scrupulously free from infectious conditions, it becomes a greater menace than is the average home with a good obstetrical equipment.

One condition which in the past has been largely to blame for bad results in obstetrics at home, is the lack of adequate help. About the only solution of this handicap which so far has been advanced is for the physician to keep in his employ a woman trained in a hospital or by the physician himself, whose duty it is to help in every confinement case. This not only insures freedom from errors in asepsis, but also makes the technic uniform and takes less time on the part of the doctor.

This saving of time is an important factor in good obstetrics, because even though obstetrical fees in general should be put on a par with other surgery of the same gravity, there will still remain many families who cannot pay them. They must either be taken care of cheaper or fall into incompetent hands. The nurse in the case insures against too hurried delivery with its attending evils. She also makes several after-calls where the physi-

cian could make but two or three, and in these calls may save many complications by detecting them in the earliest stage, reporting to the attending physician and applying timely treatment.

Where doctors have been properly schooled, where they have been properly equipped with apparatus and assistants, they have shown a lowered morbidity and mortality in their obstetrical cases.

C. E. B.

THE ENGLISH INSURANCE ACT

July 15th, last, the new British National Insurance Act went into effect. This Act compels all persons earning less than \$800 a year to pay (in stamps) a certain specified sum each week to the insurance commission. Employers also have to pay the same sum. Out of the fund so formed each insured is to receive free medical attention and certain other benefits.

The British Medical Association has opposed this Act from the first, and claims that there will not be a sufficient number of physicians in the United Kingdom willing to undertake the services under this Act, to carry it into operation. The first benefits are not payable until January 13, 1913, and until some time after that date it will be impossible to tell how the Act works.

The medical profession claims that the pay offered them is altogether inadequate, and also that people who are able to pay for services rendered are included in this Act. The physicians are allowed only about \$1 per year per patient, which is about the same allowed by the Friendly Societies now in operation in the United Kingdom, and by certain similar societies in this country—the Eagles, Owls, Orioles, and various others of the bird and beast variety.

This experiment in England is an interesting sociologic one, because it approaches

the condition foreseen by many physicians, when the members of the medical profession will be sanitary officers of the state rather than private practitioners. This state of affairs will be slow in coming, because so far no plan is proposed either by the English Act or in the minds of far-seeing men which will take care of the natural ambition and natural desire of man, whether a state sanitary officer, or private practitioner of medicine, for advancement and increase of income.

The chief objections raised to the English Act are, that the compensation offered is altogether inadequate, that the profession has not been considered in the drafting of this Act, and that many potential patients who should be able to pay are in this way brought into a class which returns very little to the practitioner.

The subject of compulsory health insurance for all laborers and the subject of medical care for such people by the state, are live topics. They are attracting worldwide attention at the present time, due to the present English Insurance Act, and they are questions which must be solved sooner or later in this country. Thousands of our patients are joining the societies which offer these benefits, and thousands more will join such societies, until the medical profession will be compelled to meet in this country the same, or, mayhap, worse conditions than now confront the British medical profession.

FIRE-ARMS AND THE GENERAL PUBLIC

The last item in the foregoing suggests another reform which has had some agitation in Michigan, but not nearly enough. How frequently do we pick up a paper and read that "Johnny Doe, aged 10, playing with a revolver, or a rifle, has shot and killed his little sister aged 6," or some similar accident.

The total number of deaths due to the careless use of fire-arms in Michigan must reach a large figure. Only a few weeks ago, two boys in their early teens were reported to have found a purse containing six dollars on a railroad right of way; to have gone to a store and purchased two revolvers and some ammunition; to have returned to the railroad right of way, and in the course of target practice to have shot and killed a conductor on the railroad. If there is no law prohibiting the sale of fire-arms to mere children there should be. Is it not time that the sale or use of fire-arms be at least restricted to police officers and certain persons who receive a license from the state to carry such fire-arms?

ON ENUCLEATION OF TONSILS

Medical literature for the past few years has been replete with papers on "Enucleation of the Tonsils." Nearly every writer has a different idea of the proper form of operation, but practically all agree as to the desideratum of complete enucleation with the capsule intact. This is accomplished by Sluder in 99.6 per cent. of cases by the use of Sluder's Modification of the MacKenzie Guillotine; others favor a dissection operation; some use scissors, some knives, curved, bent, sharp on both edges, or sharp on one edge, some with sharp tips and some with dull tips; some operators use the finger, some separate the base with a snare, some with a guillotine, some with the finger-nail, and some with curved scissors; all working to the same end, according to their own ideas and their own experiences, and undoubtedly all attaining a large percentage of good results.

The manifold methods suggested, and the uniform results reported would seem to show that the enucleation of the tonsil is one of the operations in which each sur-

geon should develop his own technic, and after deciding on what for him is best, should bend every effort to perfecting that technic.

The question of proper anesthesia has been discussed and re-discussed. Chloroform has been advocated and condemned. The Committee on Anesthesia of the American Medical Association, in a recent report, advised that on account of its danger, chloroform be not used in the tonsil operation. However, Lindley Sewell, of Manchester, England, in an article in the *Practitioner* for September, 1912, says:

"Of general anesthetics, chloroform or a mixture of chloroform and ether, is the most satisfactory. Nitrous oxide and ethyl chloride do not, generally speaking, allow a sufficiently long period of anesthesia, to permit the method of removing tonsils, I am about to describe, being carried out."

Evidently this question of the best and safest anesthetic is still far from being settled on either side of the water.

THE FOURTH OF JULY IN 1912

In *The Journal of the American Medical Association* for September 7th, appears the tenth annual report of the Fourth of July celebration, and its attendant horrors. This year only seven cases of tetanus have developed as a result of our National Celebration. One of these cases occurred in Michigan—a boy of 13, who was wounded in the hand by a blank cartridge.

In the past ten years 1,086 cases of tetanus have developed and there have been 7,848 blank cartridge injuries, of which seventy-five occurred in 1912. There were, in 1912, from all causes a total of forty-one deaths in the United States, and 947 non-fatal injuries. In Michigan, there were four deaths, one loss of sight, one loss of one eye, seven loss of fingers and thirty-seven "other injuries." The total deaths and accidents in Michigan for the ten-

year period have been as follows: 1903, 144; 1904, 157; 1905, 288; 1906, 193; 1907, 163; 1908, 203; 1909, 177; 1910, 143; 1911, 69; 1912, 50. In the city of Detroit, there were two deaths and twenty injuries, in Grand Rapids nine injuries.

This report is indeed a gratification to all of us. It shows what can be done by systematic effort in this direction. During the first seven years of this agitation, the total number of dead and injured in the United States increased from 4,449 in 1903 to 5,307 in 1909, but it takes nearly a decade to make much impression on the general public in education along any new line of thought. The impression which has been made by these years of activity is shown by the results in the past three years—dead and injured in 1910, 2,923; in 1911, 1,603, and in 1912, 988. Since so much has been accomplished we should take heart and urge more strongly than ever this fight against the use of the deadly blank cartridge, giant fire cracker, cannon, etc., as well as against the use of fire-arms, which injured 157, including nine killed.

THE NATIONAL LEAGUE FOR MEDICAL FREEDOM

H. C. Smith, M.D., of Los Angeles, in a paper read before the Los Angeles County Eclectic Medical Society, and published in the *California Eclectic Medical Journal*, for September, 1912, says:

"We seriously and justifiedly contend that the American Medical Association political machine is exerting every effort to legislate us—as a separate school of medicine—out of existence.

"Our state and county societies have aligned themselves with the National League for Medical Freedom in an effort to avert extinction."

The *Raison d'etre* of the National League for Medical Freedom is primarily, secondarily, and wholly to prevent the passage of the Owen bill, or any other bill

looking toward the creation of a strong independent public health service in our national government. It has been shown time and again that the National League for Medical Freedom was organized and secures its directors from among patent-medicine interests, or interests opposed to our National Pure Food and Drugs Act.

Dr. Smith has evidently swallowed the bait, hook and all, thrown out by the National League for Medical Freedom officers, to the effect that the Owen bill is laboring toward the extinction of all sects or creeds in medicine. Such is not the case. The Owen bill distinctly prohibits sectarian favoritism in the make-up of the Public Health Department of the government.

IN MEMORIAM

DR. JOSEPH FOSTER, of Lansing, a graduate of the University of Michigan, 1894, and a former member of the Michigan State Medical Society, died at Detroit, Mich., June 2, 1912, aged 43.

DR. CHAS. G. JENKINS, of Lansing, a graduate of the Homeopathic Medical College, University of Michigan, 1894, and a member of the Michigan State Medical Society, died at Rochester, Minn., June 21, 1912, aged 48.

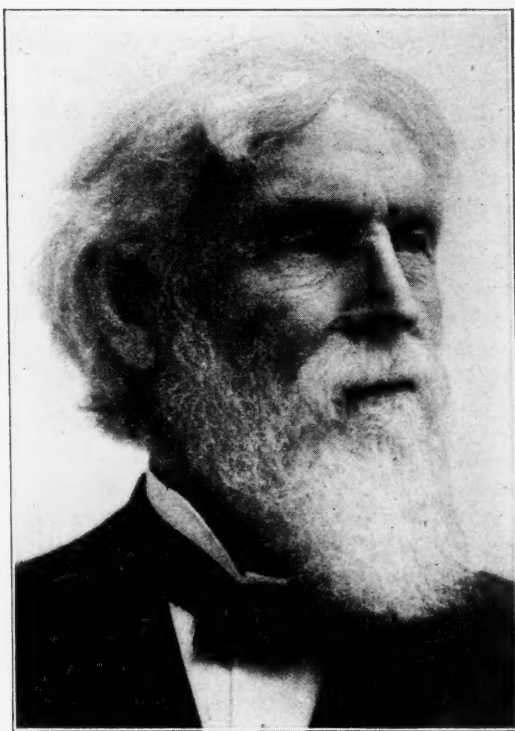
DR. HENRY M. MARVIN, of Coloma, a graduate of the Rush Medical College, 1870, and formerly a member of the Michigan State Medical Society, died at Coloma, Mich., May 3, 1912, aged 78.

ROBERT L. PARKIN, M.D., graduate of Detroit College of Medicine, 1896, and formerly a member of the Michigan State Medical Society, died at Romeo, Mich., Aug. 7, of cerebral hemorrhage, aged 51.

DR. JAMES C. WILLSON

DR. JAMES C. WILLSON, of Flint, an honorary member of the Michigan State Medical Society, died August 29th at the home of his son, George C. Willson, in his 80th year, from stricture of the esophagus.

Dr. Willson was born in Carolton County, Ontario, April 28, 1833, and graduated from the University of Michigan in 1859, locating at Flint, where he has prac-



DR. JAMES C. WILLSON

ticed until within the last three years. Dr. Willson served during the early part of the war as surgeon of the Eighth Michigan Infantry. He was mayor of Flint in 1879 and member of the Board of Education from 1881 to 1884. He served for six years as trustee of the Michigan School for the Deaf. He was president of the Genesee County Savings Bank and a director of the Flint Gas Co.

NEWS

Dr. Edgar A. Planck of Union, Cass County, is the Republican candidate for the state senate from the seventh senatorial district.

Dr. C. D. Brooks and wife, Detroit, have returned from a several months' trip in Europe, where the doctor spent considerable time in postgraduate work.

The Detroit M. E. Conference which met in Alpena, Sept. 12, adopted a resolution to eliminate all patent medicine advertising from their official publications.

Dr. Raymond B. Glement, of Detroit, was married July 11 to Miss Helen Dillon. They are spending their honeymoon in Europe and expect to return during October.

Dr. John Jay Taylor, founder and editor of the *Medical Council*, died recently from cancer of the tongue. Dr. Thomas S. Blair, who for a number of years has been an editorial writer for the *Medical Council* succeeds to the editorship.

Dr. C. M. Williams, of Alpena, has been nominated for State Senator on the Progressive ticket. Dr. Lee A. Lewis, of Manistee, has been nominated for State Senator on the Democratic ticket, and Dr. Bion Whelan, of Hillsdale, is candidate for State Representative on the Progressive ticket:

Dr. W. H. Watters, director of the Department of Pathology and Bacteriology, Evans Institute for Clinical Research, Boston, Mass., is preparing a paper upon the subject of Vaccine Treatment of Typhoid Fever, and would be glad to hear from anyone who has used vaccines in the treatment of typhoid fever. Reports are requested before December, if possible.

The *Gleaner*, a paper published in Detroit, in its number for July, contains an excellent article by Grant Sloeum, the editor, entitled "Fifteen Blue Bottles and a Green Guarantee Bond." This article deals with the patent medicine evil in a very creditable manner, giving also a few illustrations of fraud as it relates to patent medicine. But the same paper contains an advertisement of "Sal-Vet," a patent

remedy for pigs, cows and horses, and "Bickmore's Gall Cure," another patent remedy.

Dr. John B. Donaldson of Canonsburg, Pa., died June 29, 1912. Dr. Donaldson was secretary of the Washington County (Pa.) Medical Society, and was president of the Pennsylvania State Society in 1910. Dr. Donaldson was the original County Society Bulletin man, having established the first bulletin in Washington County, from which we have frequently quoted. That his idea was progressive, is evident by the fact that we now have six county society bulletins in Michigan. There are thirty-two in Pennsylvania. Dr. Donaldson's idea was a fruitful one in organization work in medical societies.

The Tuberculosis Sanatorium conducted by the Board of Health and Poor Commissioners of Grand Rapids, has issued a survey of five years' work. Two hundred and ninety-eight patients have received 31,134 days' hospital treatment. Of these seven were incipient cases; sixty-seven, early; 126, advanced; thirty-one, far advanced; six, orthopedic; two, moribund; and five, educational. The reported results are: apparently cured, thirty-three; disease arrested, seven; improved, thirty-three; greatly improved, nine; not improved, twenty-nine; died after leaving the institution, forty-one; died, eighty-six.

This little report is very comprehensive, giving illustrations of the buildings, grounds, method of caring for patients, and the officers of the institution, making in all a twenty-four page booklet.

During the last session of Congress, a bill was passed, changing the name of the United States Public Health and Marine-Hospital Service to the United States Public Health Service.

The regulations and laws relating to the U. S. P. H. and M.-H. S. are declared to relate to the Public Health Service. The Public Health Service is given authority to "study and investigate the diseases of men and conditions influencing the propagation and spread thereof, including sanitation and sewage and the pollution either directly or indirectly of the navigable streams and lakes of the United States, and it may from time to time issue information in the form of publications for the use of the public."

The salaries of the various officers of this service are also increased to equal the medical service of the army and navy.

WORK PLANNED BY THE MICHIGAN PUBLIC HEALTH EDUCATION COMMITTEE

The time is most auspicious for results in preventive medicine education, for public opinion is aroused and the laity is reaching out into the work through many of its own organizations and methods.

The State and County Medical Societies cannot be other than responsible in the aiding and guiding of these forces. An appeal is made directly to each county society to aid in establishing a permanent working system toward definite ends in using similar methods through its own appointed health committee.

If this appeal is responded to throughout the state, results will be obtained, making Michigan a state prominent in preventive medicine work—the work being largely done by the laity, the guiding by the medical societies.

The scheme of work is similar to that of last year, but more definite and effective. (See State Medical Journal, Aug. 1912, page 525.) The National Federation of Women's Clubs and the State and County Federated Clubs have established excellent methods and subjects in health work. The State Grange, consisting of hundreds of women, some owning and running their own large dairy farms, have established most interesting lines of health work.

The ministers individually and through their ministerial alliance have lecture courses on preventive medicine and health days in their churches.

It is proposed to do the public health education work of the Michigan State Medical Society largely through these three organizations, and each county medical society is asked to follow this plan as far as available.

The objects to be attained during this coming state medical year are:

1. Eradication of typhoid fever.
2. Obtaining a clean milk supply.
3. Lessening of contagious diseases.

Each medical society is also to first begin a regular systematic course of about ten lectures, open to teachers, clerks, stenographers and the general public. These lectures are to be given by different physicians on the above and other desirable subjects pertaining to pre-

ventive medicines. Second. To arrange a banquet, having as guests, editors, ministers and instructors, and as a subject preventive medicine presented by a popular physician and an open discussion of the subject following, the object being to start the work among the guests according to the needs of the community. Third. To arrange for a program on preventive medicine in each medical society, this to take the form of a symposium, in which the work outlined and accomplished by the state health officers, antituberculosis society and other health organizations in the community is made known. Such a meeting would be interesting and induce much discussion. Outside broader work should also be presented by some outside special worker.

The state committee hope to arrange with the State Federation of Women's Clubs and Michigan State Grange, so that a similar plan of work may be followed by these two organizations, the guiding and special instruction being obtained through the local medical society. Secondly, the county society is asked to consider the need in the schools of school physicians and school nurses for detecting contagious diseases, impaired sight and hearing, and diseases of the teeth, a common effective measure for caring for infected materials from doctors' and dentists' offices in public buildings; that they may not reach the public dump heap to infect the unwary.

Let us work for a national department of health and the value of students of vivisection.

Immediate action is requested from county medical societies.

Free lectures can be obtained on dentistry, and preventive medicine from the University Extension Course. Address, Extension Bureau, Prest. office, University, Ann Arbor.

State bulletins free, Sec. State Medical Board, Lansing, Michigan.

Bulletins on special subjects as milk, meat, etc. (one to each applicant), Superintendent of Agriculture, Washington, D. C.

Special literature on special subjects. 55 Sheldon Avenue, Grand Rapids, Mich.

SOCIETY NEWS

GENESEE COUNTY MEDICAL SOCIETY

The regular quarterly meeting of Genesee County Medical Society was held at Flushing on Dr. Tock's veranda, July 30, at 4 p. m.

Dr. F. L. Covert of Gaines, and Drs. Joseph Scheidler and J. H. Horton of Flushing, were elected members. Following a lengthy business meeting, a humorous paper was read by Dr. C. B. Burr, entitled, "Some of Dicken's Insane Characters." Dr. Don Knapp presented an interesting paper on Typhoid Vaccination. Discussion followed.

On motion the meeting adjourned for refreshments.

Dr. Tock was extended a vote of thanks for his hospitality.

Tuesday, Aug. 20, retail druggists and physicians of Genesee County had an excursion to Lake Orion. The druggists defeated the physicians in an exciting baseball game by a score of 16 to 6. Following the ball game a fish and frog dinner was served at Hotel Bellevue. Ninety were present and a good time reported by all.

Special meeting of Genesee County Medical Society was held Aug. 30, to honor our deceased honorary member, Dr. James C. Willson.

Drs. Burr, Tupper, McGregor, Manwaring and President Bates, spoke very honorably and very lovingly of Dr. Willson.

Moved by Dr. Burr that the minutes contain the expression of the love and appreciation the Society feels toward Dr. Willson. This expression to accompany the resolutions.

Supported and carried unanimously.

The following resolutions were adopted by the Society on the death of Dr. Willson:

It has been truthfully said of him who has gone from our midst that his ideals were invariably of the highest character. He was the courtly gentleman, the scholarly associate, the devoted physician, the sympathetic friend, the patriotic citizen, the tender husband, and the indulgent father. Dr. James C. Willson has lived for fifty-five years in this community. He numbered among his friends and well wishers, all who have known him well, of whatever walk in life, of whatever race, of whatever shade of political or religious opinion. Of enemies and detractors there are none. Concerning few men can such a record be veritably inscribed. His example may be imitated but it is beyond human power to exceed its consistency toward the goal over which is inscribed

those words "well done," the reward of the good and faithful servant.

His picturesque head, his benignant face, his manly bearing will be in evidence no more on the streets of the city blessed by his residence. His helpful words and wise counsel are no longer available in the society of which he was a pillar and tower of strength, but the recollection of his commanding presence, his erudite judgment and his lovable personality will not fade from the minds of his fellow members of the medical profession of which he was so conspicuously an ornament.

He was firm in the right, but just and fair. He knew no compromise with iniquity but he unhesitatingly condoned mistakes in those of less exalted standards than his own, and charitably recognized in his estimate of men those bounds and limitations upon rectitude of conduct which exigency and adverse circumstances so frequently impose. If one who has been faithful in a few things may enter into the joy of the Lord, what shall be the reward of him who was to outward seeming faithless in none?

The Genesee County Medical Society will not cease to mourn its loss, and joins with the citizenship of Michigan in presenting condolence and sympathy to the sorrowing family. It directs that this minute be inscribed upon its records.

F. L. TUPPER,
M. S. KNAPP,
C. B. BURR,
Committee.

C. P. CLARK, Secretary.

Flint, Michigan, August 30, 1912.

KALAMAZOO ACADEMY OF MEDICINE

At the meeting in Allegan, which was held June 25, it was agreed to hold a special meeting during July for the purpose of electing some member of the academy to superintend the tuberculosis clinic. This was agreed upon in response to the offer of the Kalamazoo Anti-Tuberculosis Society to provide the expense of conducting the work if the academy would provide the physician to conduct it.

The special meeting was held in Kalamazoo on July 23, and Dr. B. A. Shepard was elected to manage the clinic, and given the title of Chief of Staff, it being understood that he should appoint such other physicians to assist in the work as conditions might require.

Dr. Shepard promptly set to work with the committee from the Anti-Tuberculosis Society to formulate plans. It was with much difficulty that a suitable place for conducting the clinic was found. At this writing, however, a very

desirable location has been agreed upon where the work will have good accommodations. In the meantime Dr. Shepard has started the work by caring for certain cases either at his office or at their homes.

Several prominent citizens outside of the medical profession have taken a keen interest in the work, and are providing funds for its promotion. The outlook is very bright for a much-needed and successful service for the tuberculosis victims of Kalamazoo.

C. E. Boys, Secretary.

NEW AND NONOFFICIAL REMEDIES

Since publication of New and Nonofficial Remedies, 1912, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies":

NEOSALVARSAN is a mixture of sodium 3-diamino-4-dihydroxy-1-arsenobenzene-methanal-sulphoxylate, $\text{NH}_2\text{OH}\cdot\text{C}_6\text{H}_3\text{As}:\text{As}\cdot\text{C}_6\text{H}_3\text{OH}\cdot\text{NH}(\text{CH}_2\text{O})\text{LSNa}$, with inert inorganic salts. The

arsenic content of three parts of neosalvarsan is approximately equal to two parts of salvarsan. Neosalvarsan is supplied in sealed tubes containing, respectively, 0.15 Gm. (2 3-10 grains), 0.3 Gm. (4 6-10 grains), 0.45 Gm. (6 9-10 grains), 0.60 Gm. (9 3-10 grains), 0.75 Gm. (11 6-10 grains), 0.9 Gm. (13 9-10 grains). It is readily soluble in water forming solutions which are neutral to litmus and very unstable. The action and uses are the same as those of salvarsan. The average single dose for man is 0.75 Gm. (12 grains). It may be administered by intramuscular or, preferably, by intravenous injection. For intravenous injection 25 c.c. freshly distilled water for each 0.15 Gm. is to be used. For intramuscular injection 3 c.c. of water should be used for each 0.15 Gm. neosalvarsan, this yielding an approximately isotonic solution. Victor Koechl & Co., New York (*Jour. A. M. A.*, Sept. 14, 1912, p. 879).

SALOQUININE, the salicylic ester of quinine, is described in New and Nonofficial Remedies, 1912. The product as sold by Merck & Co., New York, has also been admitted to N. N. R. (*Jour. A. M. A.*, Sept. 14, 1912, p. 879).

ARTICLES ACCEPTED FOR N. N. R. APPENDIX.—Menthol-Iodol is a mixture of iodol 99 parts and menthol 1 part. Kalle & Co., New York (*Jour. A. M. A.*, Sept. 14, 1912, p. 879).

THE TRUTH ABOUT MEDICINES

It is the purpose of this department to encourage honesty in medicines, to expose frauds and to promote rational therapeutics. It will present information regarding the composition, quality and value of medicaments, particularly as this is brought out in the reports of the Council on Pharmacy and Chemistry and of the Chemical Laboratory of the American Medical Association.

RADIOACTIVE SUBSTANCES IN THERAPY—From a discussion on the therapeutic value of radioactive preparations at the German Congress of Internal Medicine in April of this year, the conclusion seems to be justified that very large doses of the emanations or of the thorium X solutions are necessary to secure therapeutic results and in these cases the therapeutic results appear to be separated from the toxic action by a very narrow margin. It is evident, therefore, that the use of these sub-

stances is still in the experimental stage, that little if any effect is to be expected from preparations on the market, especially as they contain only extremely minute doses which, although probably safe, are probably also worthless (*Jour. A. M. A.*, Aug. 17, 1912, p. 541).

MEDICAL MEETINGS AS ADVERTISING MEDIUMS.—The promotion of a proprietary nostrum by means of papers read before a medical meeting has gone out of vogue in this country. But while conditions have improved here, they seem to have grown worse in Germany. Now, however, it appears that a halt will be called before long. Recently Dr. Bernheim of Paris, who is much interested in the exploitation of a new "consumption cure" read a paper before the German Congress for Internal Medicine. Later this paper was reprinted and distributed by the promoters of dioradin. Included with this reprint were testimonials which originally were

not a part of the paper. The reprint bore the imprint "German Congress for Internal Medicine" and thus the society was made to lend official sanction to the testimonials. In view of this a protest has been issued by the presiding officer, Professor Penzoldt. This protest is evidence that the German medical profession is awakening to the wretched conditions which have developed in that country in connection with the exploitation of proprietary medicines (*Jour. A. M. A.*, Aug. 17, 1912, p. 549).

AN OPPORTUNITY FOR THE PHARMACIST.—Although the pharmacist can do much toward the advance of medicine and also toward the improvement of the public health, his commercial tendencies have to a large extent made him lose sight of his opportunity. While, in particular, the tendencies of the National Association of retail druggists toward the perpetuation and extension of the patent medicine and the nostrum business have not been a credit to pharmacy, *N. A. R. D. Notes*, the official organ of the N. A. R. D. has started a public health propaganda department in which the druggist is urged to protect the public by giving advice as to the seriousness of various diseases and the need of their treatment by trained physicians. When it is considered that a large number of people go to their druggist for advice or treatment for ailments of all kinds, the opportunity which is in the hands of the pharmacist will be appreciated (*Jour. A. M. A.*, Aug. 17, 1912, p. 569).

MARJORIE HAMILTON OBESITY CURE AFTERMATH.—Following the exposure of the Marjorie Hamilton Obesity Cure (*Jour. A. M. A.*, March 16, 1912, p. 798) the United States postal authorities took a hand and on June 7, 1912, W. C. Cunningham and his wife, Marjorie Hamilton Cunningham, were indicted by the federal grand jury and placed under arrest for fraudulent use of the mails. Although, since the Marjorie Hamilton business was exposed, Cunningham has branched out into a new mail order fake line, a "quick wrinkle remover" introduced by "Princess Tokio" the Denver papers now announce that he will withdraw from business and confine himself to the European field—where frauds of this sort are less liable to be molested (*Jour. A. M. A.*, Aug. 17, 1912, p. 561).

TYREE'S ANTISEPTIC POWDER.—For years Tyree's Antiseptic Powder was advertised to the medical profession with claims that were

unwarranted as to both composition and therapeutic effect. Analyses show that the preparation was essentially nothing but a simple mixture of sulphate of zinc and boric acid. The medical profession having prescribed the nostrum, the original package scheme did the rest and now Tyree's Antiseptic Powder goes to the public direct. It is now advertised in newspapers as "Ideal for douches," "Best preventative known," etc. That a nostrum of this sort should go to the public is not surprising but that it should have reached the public through the instrumentality of the medical profession is a serious reflection on the judgment of physicians. That the exploiters of this nostrum no longer find it profitable to use medical journals as a means of getting their stuff to the public but must needs use the more expensive newspaper advertising, is cause for optimism. It means that physicians are no longer prescribing, indiscriminately, proprietary products and that they are refusing to be, what they have been in the past, the unpaid distributing agents for nostrum venders (*Jour. A. M. A.*, Aug. 24, 1912, p. 666).

THE FOOD AND DRUGS ACT AMENDED.—About a year ago the Supreme Court decided that the Food and Drugs Act of 1906 contained no prohibition against false statements as to therapeutic value. Now Congress has amended the law by adopting Congressman Sherley's amendment which makes therapeutic lies on the label of a medicine illegal by adding the following as paragraph 3 to Section 8 "If the package or label shall bear or contain any statement, design, or device regarding the curative or therapeutic effect of such article, or any of the ingredients or substances contained therein, which is false and fraudulent." There can be no question as to the intent of this amendment. It says to the "patent-medicine" faker in plain and unequivocal terms: "Thou shalt not lie" (*Jour. A. M. A.*, Aug. 31, 1912, p. 727).

VIBURNUM COMPOUNDS AND OTHER NOSTRUMS.—There are a number of drugs which have in some way obtained a reputation as being valuable in the treatment of diseases of women without their therapeutic claims ever having been proven. A considerable number are combined in various nostrums (sometimes with therapeutically active drugs) and exploited for the cure of female disorders. Thus Hayden's Viburnum Compound is claimed to contain American skullcap (*Scutellaria lateriflora*), cramp-bark (*Viburnum opulus*) and wild yam

(*Dioscorea villosa*). Other mixtures of this kind including "patent medicines," proprietary nostrums and "pharmaceutical specialties" contain such drugs as black cohosh, blue cohosh, goldenseal, lady's slipper, false unicorn-root, cramp-bark, wild yam, star-grass, trailing arbutus, motherwort, Jamaica dogwood, pulsatilla, squaw-vine and saw palmetto. The popularity of preparations of this kind is purely an artificially created one. A nostrum containing, let us say, extractives of some little-used or worthless drugs is put on the market and heavily advertised. Should it be advertised in a manner to make it sell, a host of imitations appear and the large pharmaceutical houses put out substitutes for it. The uncritical physician does the rest. He prescribes it indiscriminately in the class of cases for which it is advertised. Naturally, a certain proportion of the patients who take it recover, and the recoveries are credited to the nostrum. A vicious circle is thus established and the demand for the stuff increases. Its sale, and the sale of similar products, continues until the overwhelming experience of those who have prescribed it proves its uselessness. In the meantime the manufacturers have reaped a harvest at the expense both of the public and of the medical profession. And the manufacturers' excuse for putting such absurd "specialties" on the market is that physicians prescribe them! (*Jour. A. M. A.*, Aug. 31, 1912, p. 735).

MISSOURI PROGRESSIVE.—At the annual meeting of the Missouri Medical Association the following motion, urging its members not to support medical journals which carry questionable advertising was adopted:

WHEREAS, The American Medical Association has been doing effective work to counteract the influence of certain medical journals whose advertising pages carry many fraudulent advertisements; therefore, be it

Resolved, That it is derogatory to the best interests of the Missouri State Medical Association for members to publish articles or papers in medical journals which are not in sympathy with the purposes of this organization; and further

Resolved, That members are hereby requested to cease publishing original articles or other matter in journals whose advertising pages contain fraudulent and questionable advertisements and to give loyal and constant support to the *Journal of the Missouri State Medical Association* (*Jour. A. M. A.*, Aug. 31, 1912, p. 735).

THE HABITINA FRAUD.—The promoters of Habitina, R. C. Prewitt and Ryland C. Bruce constituting the Delta Chemical Company, were fined \$2,000 and sentenced to five years at hard labor in the United States Penitentiary. Habitina was one of those vicious mixtures containing large amounts of morphine which are sold to drug addicts but which instead of curing substitute slavery to a high-priced, fancy-named, morphin mixture for that to the simple opiate itself. In summing up the case the post-office inspectors, in their report, concluded as follows: "The conviction obtained in this case has terminated one of the most pernicious and outrageous frauds ever perpetrated on a credulous public, who were not only defrauded out of large sums of money, ranging from a few dollars to over \$2,000 each, but were robbed of health of body and mind; some were rendered blind and some were made maniacs—how many died under the 'treatment' will never be known—but, taking their own testimonials as a source of information, four out of eight have died drug addicts, and out of the thousands of persons they have treated but one witness could be produced by the defendants to testify in behalf of this drug having any remedial properties whatever. These defendants deliberately fostered the most dreadful forms of drug slavery for their personal gain. They made no effort to cure the patient for the blood money thus obtained. They produced no evidence which would traverse the contention of the Government that the whole purpose of the defendants was to substitute for the slavery to the drug purchased by the habitue from the 'corner pharmacist' under the restrictions of state law, the slavery to the same and worse drugs purchased under a disguised name at many times a fair commercial price from the Delta Chemical Co." (*Jour. A. M. A.*, Sept. 7, 1912, p. 817).

MORPHIN VERSUS THE COMBINED OPIUM ALKALOIDS.—The results obtained with the isolated "active principles" of drugs have in certain cases been observed to be not entirely identical with those obtained by the administration of galenical products or the crude drug itself. This is notably true of opium, the therapeutic efficacy of which is somewhat different from that of its chief alkaloidal ingredient morphin. W. Straub has undertaken to throw some light on these differences. While it is probable that they would be due to the minor alkaloids of opium, to quote Straub: "It is improbable, *a priori*, that it is necessary,

in order to improve the action of morphin, to drag in the whole of the two dozen alkaloids of opium; it is much more probable that only the most active or the most abundant of the alkaloids need to be considered." The researches of Straub have made it probable that the practical differences in the action of opium and morphin are mainly due to the narcotin. H. Caesar has made comparable trials with the other alkaloids associated with morphin in opium and found that these do not produce the reinforcement under discussion. They do have complex modifying effects, however, which are further complicated by any changes in their relative proportions vary enormously in different samples of opium, and still more in its galenical preparations, Straub and Caesar suggest the employment of a simple mixture of equal parts of morphin and narcotin in place of the opium (*Jour. A. M. A.*, Sept. 14, 1912). p. 882).

FOOD AND DRUGS ACT CONVICTIONS.—The owners or sellers of the following "patent medicines" have been prosecuted by the federal authorities in the enforcement of the Food and Drugs Act:

Wood's Soothing Syrup, Wm. J. Wood, Trenton, N. J.—It has been claimed to be "a sure cure for croup," "a preventative against taking cold," etc. Analysis indicated it to be a watery-alcoholic solution of opium, aromatic bodies, sugar, inorganic salts and undetermined matter.

Ralston's Select Bran and Acme Diabetic Flour, Acme Mills Company of Portland, Oregon.—Ralston's Select Bran was claimed to be a brain and nerve food, to give brightness to the eye, cure torpidity of the liver, etc. Examination proved it to be nothing more than ordinary bran. Acme Diabetic Flour was sold under the claim that it was "milled by special process to preserve gluten properties of wheat." While this statement gave the idea that gluten was the chief constituent of this flour, the analysis showed that the product did not contain any more gluten than is found in ordinary wheat flour. While recommended to diabetics it contained an amount of starch equal to that found in ordinary flour.

Dr. Caldwell's Rheumatism Cure, "John" W. Horter, New York.—This nostrum was sold under the usual extravagant claims. Examination indicated it to obtain alcohol, salicylic acid, ammonia and traces of bromides, a chlorid, an alkaloid (not identified); sodium and phosphorus were found.

Dr. Caldwell's Anti-Pain Tablets, Dr. Caldwell Medical Company, Poughkeepsie, N. Y.—These were found to contain acetanilid 51.4 per cent., caffeine 12.3 per cent., cornstarch 23.2 per cent., camphor, present. The product was found misbranded because the label said nothing in regard to the acetanilid content.

Hoff's Consumption Cure, Bendiner & Schlesinger, New York.—This was found to contain morphin, cinnamic acid, potassium and arsenic. It was declared misbranded because its morphin content had not been declared and because of the untrue therapeutic claims made. With this cure came four other nostrums: Superlatone, Adjunct Cough Mixture, Concentrated Appolozzer's Mixture and Kodak Tablets, all of which the victim was expected to use along with the "cure" (*Jour. A. M. A.*, Sept. 14, 1912, p. 893).

MEDICOLEGAL

ATTENDING PHYSICIAN TESTIFYING TO RESULTS OF AUTOPSY

(*Thomas vs. Byron Township (Mich.)*, 134 N. W. R., 1021)

The Supreme Court of Michigan holds that, where neither the deceased nor the representative of her estate had waived the statutory privilege, it was error to permit the physician who attended her from the time of her injury until her death to testify, in an action brought by the administrator of her estate to recover damages for her injury, to the results of an autopsy and his conclusions therefrom as to the cause of her death. The question so decided the court says was one of first impression before it, and one on which the authorities gave no great assistance, no case being cited by counsel, and the court being unable to find any, where the exact question presented has been passed on.

There was no dispute but that the relation of physician and patient existed during the lifetime of the plaintiff's decedent, or that all communications and knowledge which are inhibition of the Michigan statute received by this physician during her lifetime were privileged and so continued, there having been no waiver; but it was claimed that the death of the patient made this testimony competent. From the examination of the witness the court concludes, by the questions asked, the answers to which were excluded as privileged, that he had during the lifetime of the patient made such an exami-

nation of her person, and received such information, as was necessary to diagnose her case and prescribe for her, and also that he had disclosed to the defendant's attorney such facts. The court must also conclude from the record that on account of this relation, which existed between the witness and the deceased, it was possible for him to proceed within a few hours after her death to hold an autopsy.

The statute involved has been in force, in Michigan, without amendment, since the revision of 1846. Its provisions are therefore a part of the fixed policy of the state. This court has given it a liberal construction in protecting the privilege of the patient created by it. To allow the testimony of this attending physician as to this autopsy and his conclusions therefrom would operate to take away such privileges clearly granted. This testimony was improperly given in the case. Any other construction and determination is not in harmony with this court's construction of this statute and cannot be entertained. It was error to admit it.

The court also holds that it amounted to prejudicial error for counsel for the defendant to repeatedly ask the witness similar improper questions, apparently to get before the jury incompetent testimony, after an objection had been sustained to a question asking him to state what he determined from his visiting the patient and diagnosing her case was the matter with her. This court has repeatedly held that such conduct will not be tolerated.—*Journal A. M. A.*

**ATTENDANCE ON INDIGENT PERSONS
FOR WHICH COMPENSATION MAY
BE HAD—ACTION OF BOARD OF
SUPERVISORS NOT FINAL**

(Chapman vs. Board of Supervisors of Muskegon County (Mich.), 134 N. W. R., 1025)

The Supreme Court of Michigan says that the plaintiff, a physician, rendered professional services to one Bessie Peterson, an alleged indigent person, starting to attend her some time before he claimed to have been directed to care for her by the supervisor of the township, and continuing to attend her until Oct. 1, 1903, when he removed to Chicago, having arranged with another physician to take care of her for him. She was afflicted with tuberculosis of the bowels.

The claim that it was not shown that Bessie Peterson was an indigent person might be disposed of by noting that the health board of the

township by resolution determined that at the time that services were rendered Bessie's father was not financially able to pay for them. Moreover, this court had held that in case of legal employment the pecuniary ability of the patient is not controlling. Nor could it be said that there was no evidence of legal contract.

It was contended that the board of supervisors having disallowed the plaintiff's claim, its decision was final. But the circuit court had jurisdiction to entertain an appeal. The services for which compensation was sought were all rendered before the adoption of the constitution of 1908. Section 9 of Article 8 provides: "Appeals may be taken from such decisions of the board of supervisors, or auditors, to the circuit court in such manner as shall be prescribed by law." Section 2 of Act No. 58, Public Acts of 1909, provides that: "When the claim of any person, firm or corporation shall be disallowed in whole or in part by the board of supervisors, or board of county auditors, such person, firm or corporation may appeal from the decision of such board to the circuit court for the same county." The language of this act is very broad. No intimation is there given that appeals will lie only in those cases in which the claim arose subsequently to the passage of the act. The right given apparently covers every case of total or partial disallowance. It is clear that this statute confers no new rights, or creates no new liability. It affects the remedy only for a pre-existing right, and as such may be invoked in the enforcement of that right.

But while it has been held that this statute should receive a liberal construction in the interest of the public health, this court thinks that it would be going too far to hold that a physician having a contract of employment with a health board might hire another physician to do the actual work, and himself collect for the service. It may well be supposed that the element of personal fitness enters into the contract. The board certainly is clothed with the power of selection, and the county should not be called on to pay for the services of a physician with whom no contract was made. It seems equally plain that that portion of the bill represented by charges made by the plaintiff for services rendered by himself prior to the making of the contract was properly disallowed. However, the plaintiff was entitled to compensation for medicines furnished by him, under his contract, even though they were administered by the hand of another.—*Journal A. M. A.*

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Next Annual Meeting M. S. M. S., Flint, Sept., 1913.
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BOOK NOTICES

THE PRACTICAL MEDICINE SERIES, comprising ten volumes of the Year's Progress in Medicine and Surgery. Under the general Editorial Charge of Gustavus P. Head, M.D., and Charles L. Mix, A.M., M.D.—Vol. 111. Eye, Ear, Nose and Throat, Edited by Casey A. Wood, C.M., M.D., D.C.L., Albert H. Andrews, M.D., and Gustavus P. Head, M.D., Series 1912. Chicago: The Year-book Publishers. Set, \$10; Vol., \$1.25.

To mention the subjects discussed in this review of the year's literature upon this special field would be presumptuous. Suffice that the literature has been carefully examined, and points of value have been carefully and concisely presented in this valuable little book.

PSYCHOTHERAPY, including the history of the use of mental influence, directly and indirectly, in healing, and the principles for the application of energies derived from the mind to the treatment of disease. By James J. Walsh, M.D., Ph.D., Dean and Professor of Functional Nervous Diseases and of the History of Medicine at Fordham University School of Medicine, and of Physiological Psychology at the Cathedral College, New York. New York and London: D. Appleton & Company, 1912. Cloth, \$6.00 net.

Dr. Walsh has given us a very entertaining book, containing most valuable suggestions for the use of physicians. The style and sequence of the book are strongly suggestive of a course of lectures, given by a man who has the knack of talking to his audience instead of lecturing. Psychotherapy is open to large abuse, and has been so abused. The Latin proverb quoted in the introduction, "From the abuse of a thing no argument against its use can be drawn," is apropos in no place more than in this subject, but formal study of Psychotherapy and its intelligent use will give untold benefit to our patients.

We read under the history of Psychotherapy that the great success of the first physician of history, I-em-Hetep, depended largely upon his knowledge of men and his ability to cheer and relieve their sufferings, both physical and mental. All along down the ages Psychotherapy was used, but not especially under that name.

We read how Galen re-echoed Hippocrates' expressions, as to the necessity for securing the patient's confidence and setting his mind at ease. We read of the success of great physicians: Agrippa, Sydenham, Morgagni, Hunter, and of charlatans such as Galen's Weaver, St. John Long, Cagliostro, Perkins and Mesmer. The secret of the wonderful cures performed by

Galen's Theriac, St. John Long's Liniment, by the Weapon Ointment, by Sarsaparilla, and numberless other preparations, in addition to amulets, talismans, charms, and the like, are easily understood by perusal of these pages.

The author takes up the every day life of the individual, showing how personal suggestion, right living, cheerfulness, freedom from introspective thoughts, tend to increase the natural functions of the body, natural health and the happiness of the individual.

The principles of Psychotherapy are simple. They are such as each and every physician uses every day in his practice, but they are analyzed, classified and presented upon a working basis by our psychotherapists.

Richet says "physicians can seldom cure but they can nearly always relieve and they can always console." There is a lesson in this thought for all, and a careful reading of this book shows how easy it is to render the service necessary for those consolations. The application of Psychotherapeutics to the various systems, and the conditions of the body is presented in detail, taking up the digestive tract, the circulatory system, respiratory diseases, psychotherapy in joint and muscular systems, in gynecology, in genito-urinary diseases, in the disease of the ductless glands, in organic nervous diseases, neuroses, disorders of the mind, disorders of the will, and in surgery.

This is a most valuable work, instructively presented and we can strongly recommend it to anyone interested in relieving and consoling his patients, whether he be neurologist, surgeon, oculist, aurist, or general practitioner.

THE PHYSIOLOGY OF FAITH AND FEAR, OF the Mind in Health and Disease. By William L. Sadler, M.D., Professor of Physiologic Therapeutics, Chicago Post-Graduate Medical School. Illustrated. Chicago: A. C. McClurg & Co., 1912. Price, \$1.50.

This book is written primarily for the layman and Dr. Sadler early states that he "desires to separate the study of mental healing from any and all particular brands of religion," and approaches the subject from the standpoint of the physician and physiologist. Each phase of psychology as related to the abnormal and "unnatural" individual is carefully analyzed and studied. The under tone of treatment is the gospel of good will, good cheer, and buoyancy, as contra-indicated by nervousness, combativeness, restlessness, and the various other mental conditions that all physicians know by experience tend to prolong the sufferings of their patients.

It is an interesting psychological study showing how faith, cheerfulness, belief, etc., the gospel of good will, good cheer and buoyancy, has a therapeutic effect so entirely different from the opposite mental condition—fear.

The two words faith and fear are used to designate the two opposite mental conditions met with so often by physicians in treating the sick and especially the neurasthenic.

A MANUAL OF PHARMACY for Physicians, by M. F. DeLarme, M.D., Ph.G., Assistant Professor of Materia Medica and Pharmacology, Long Island College Hospital. Third Edition. Philadelphia: P. Blakeston's Son & Co., 1912. Price, \$1.25 net.

This is a handy little volume devoting plenty of space to prescription writing and prescription Latin. Following is an analysis of pharmaceutical preparations and a list of some of the official drugs put up in the various forms described, with percentage and composition. The book gives a great mass of information in an accessible and compact form.

AN ESSAY ON HASHEESH, including observations and experiments by Victor Robinson. Contributing Editor, Medical Review of Reviews, 1912. New York: Medical Review of Reviews. Price, 50 cents.

This little volume of eighty-one pages contains besides the history and physiological action of Hasheesh graphically depicted, many a laugh and a very pleasant hour's diversion. Once having read this essay one will have more respect for and a better understanding of the drug. Victor Robinson is gifted with the flow of language which gives an added zest.

A TEXT-BOOK OF PRACTICAL THERAPEUTICS, with especial reference to the Application of Remedial Measures to Disease and their employment upon a rational basis. By Hobart Amory Hare, M.D., B.Sc., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia; Physician to the Jefferson Medical College Hospital; one-time Clinical Professor of Diseases of Children in the University of Pennsylvania; Laureate to the Royal Academy of Medicine in Belgium; member of the Committee of Revision of the United States Pharmacopeia of 1905. Fourteenth Edition, enlarged, thoroughly revised, and largely rewritten. Illustrated with 131 engravings and 8 plates. Lea & Febiger, Philadelphia and New York, 1912.

The above well-known work, so highly appreciated, is now ready in the fourteenth edition in which is added sections and chapters on the newer things in Therapeutics. The style of description is such, that the student may know

not only the action and effect of the drug or measure, but also how and when to use or apply it. The newer drugs and their action have received ample space and attention. It is a pleasure to note that chloroform in the author's opinion is still of service, and under proper conditions reasonably safe, also cases are shown where it is preferable to other forms of anesthesia. Ether also received ample consideration.

A chapter on salvarsan is of interest. Remedial measures other than drugs; for example, serums, baths, Bier's Hyperemic Treatment, cold, heat, disinfections, enteroclysis, inhalations, lavage, mineral springs, climate, rest, feeding the sick, comprise an important feature.

Much attention is given to diseases, their description with relation to the remedies to be applied, how to apply them, why to apply them, when to apply them.

The reviewer bespeaks for this edition a continuation of the great popularity won by the preceding editions.

A valuable feature is that covering the toxic effects of drugs, describing fully the symptoms, and grouping in easy manner of access, the antidotes and other means to be employed in combating these ill effects.

THE PRACTICE OF MEDICINE. A Manual for Students and Practitioners. By Hughes Dayton, M.D., formerly of the Cornell University Medical School, New York. New (Second) Edition, Thoroughly Revised. 12mo, 326 pages. Cloth, \$1.00 net. The Medical Epitome Series. Lea & Febiger, Publishers, Philadelphia and New York, 1912.

This volume follows the classification of Osler and is in fact a boiled down Practice of Medicine, with all possible eliminated, but retaining the essential things. It is an epitome of the subject, for rapid review and reference.

A TEXT-BOOK OF PATHOLOGY for Students of Medicine. By J. George Adami, M.A., M.D., F.R.S., Strathcona Professor of Pathology, McGill University, and John McCrae, M.D., M.R.C.P. (Lond) Illustrated with 304 Engravings and 11 colored Plates. Lea & Febiger, Philadelphia and New York, 1912. Cloth. \$5.00 net.

This volume appearing so soon after Dr. Adami's two volumes "Principles of Pathology" is written to fill a decided want. Many requests were made for a suitable text-book embodying the material of the two large volumes. The authors have not merely rewritten the work in a more condensed form. They have written

almost entirely a new book which is a worthy product of their labors.

A part of a chapter is included on Pain.

The enormous mass of material accumulated during the past few years on immunity has been carefully, clearly and sufficiently handled in twenty-five pages instead of hundreds of pages as are frequently devoted to this subject.

INFANT-FEEDING. By Clifford G. Grulee, A.M., M.D., Assistant Professor of Pediatrics at Rush Medical College; Attending Pediatrician to Cook County Hospital. Octavo of 295 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1912. Cloth, \$3 net.

This volume by Grulee is replete with valuable suggestions from his wide experience. The book shows close observation of symptoms, also prolonged and deep research work. The ability of the infant to digest and assimilate food in health and in sickness; the differentiation necessary to determine the individual capacity for the various classes of food; the selection of food for the individual child; the preparation and administration, all these are clearly and graphically brought out in this work. The amount to be allowed, the intervals of feeding, the dangers of over-feeding as well as under-feeding are all considered, and the arrangement is such as to make the particular diet in a given case quickly and easily found.

A very desirable book on a timely subject.

THE SURGICAL CLINICS OF JOHN B. MURPHY, M.D., at Mercy Hospital, Chicago. Volume I, Number 3. Octavo of 174 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1912. Published bi-monthly. Price per year: Paper, \$8; cloth, \$12.

The third number of Dr. Murphy's clinics is of the same great value as the others, and even greater, for it gives the progress of a number of patients operated upon and reported in preceding numbers. This number covers a galaxy of subjects, several fractures, tuberculosis of the intestine, cystic goiter, hypernephroma, cholelithiasis, typhoid spine, etc.

THE CARE OF THE SKIN AND HAIR. By William Allen Pusey, A.M., M.D., Professor of Dermatology University of Illinois. New York and London: D. Appleton & Company, 1912.

In this little book Dr. Pusey has written what the layman of average intelligence might find useful to know about the skin and hair. The physiology, nutrition and care of the parts are carefully presented. Certain diseased con-

ditions are necessarily mentioned, but only in a general way. The book is especially valuable as an outline of simple methods and care to promote health and physical well being. Treatment and medication are not considered—rather hygiene and what that implies. Hygiene in the barbershop is mentioned as practically impossible, and the author says one should shave himself.

ARTERIOSCLEROSIS, Etiology, Pathology, Diagnosis, Prognosis, Prophylaxis and Treatment, with a special chapter on Blood Pressure. By Louis M. Warfield, A.B., M.D. Assistant superintendent and resident physician to Milwaukee County Hospital; assistant professor of medicine, Wisconsin College of Physicians and Surgeons, Milwaukee, Wis.; formerly medical house officer, Johns Hopkins Hospital, Baltimore, Maryland; member American Medical Association. With an introduction by W. S. Thayer, M.D., Professor of Clinical Medicine, Johns Hopkins University. Illustrated with twenty-eight engravings. St. Louis, C. V. Mosby Co., 1912. Price, \$2.50.

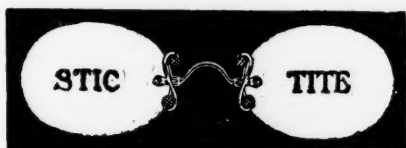
To this author belongs the credit of according to this subject the dignity of special consideration in a monograph, the second edition of which is now ready.

The unsatisfied feeling with which one turns from the ordinary chapter on arteriosclerosis, is not felt after a careful perusal of this work. A clear picture of the arteriosclerotic process is vividly shown under Anatomy and Pathology. The changes that take place in these tubes, their elasticity, flexibility, strength, and power to sustain the pressure necessary to force circulating fluid through them, also the means of knowing this pressure, the description of reliable instruments for measuring it, with discussion of certain conditions, drugs, etc., that influence it are convincingly set forth under Physiology, Circulation and Etiology. It is a pleasure to note the stress laid upon early diagnosis, and the aids given to enable one to make it.

The following warning appears under Prophylaxis: "Men who have been athletes when young should guard against over-eating and lack of exercise as they grow old." Good, but the reviewer's observations have been that athletes do *not* grow old. It is easier to avoid excessive athletics while young, than to eat less and exercise more when old.

Valuable suggestions are given in the chapter on Arteriosclerosis in its relation to life insurance. In this field the book will be a great help.

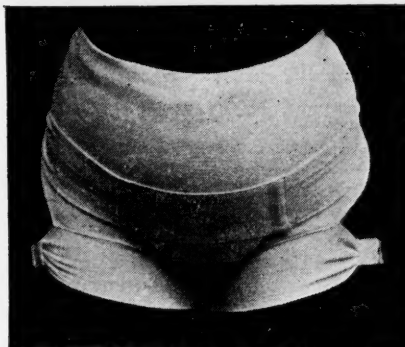
We note the author's defense of the temperate (?) use of tobacco and spirits. Silence is golden.



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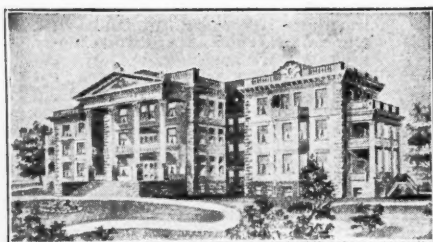
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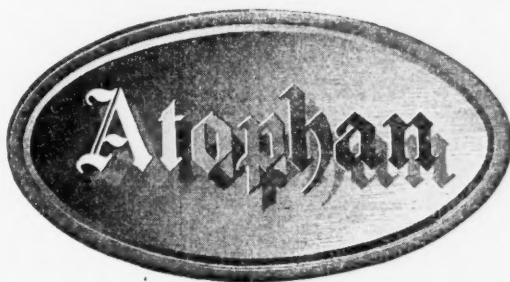
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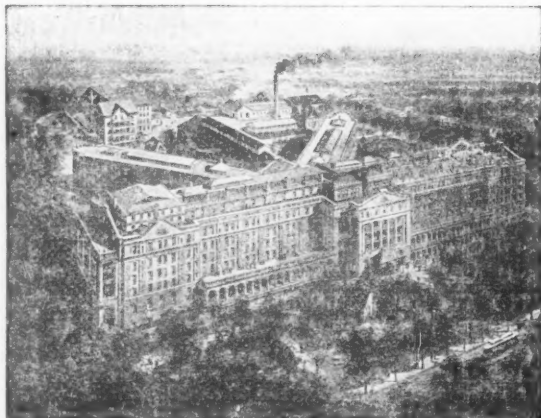
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